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ON HYPOCHONDRIA.

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Hypochondria is a medical term of considerable antiquity, originally referring to "that part of the body below the cartilage of the breast bone"; it came to include "the viscera situate therein", the liver, spleen and gall-bladder, and thus "the morbid and melancholic humours arising therefrom". The recognition of hypochondriasis is usually attributed to Hippocrates, although the association, perhaps confusion, between hypochondria and melancholy long existed. Melancholia originally referred to the black bile which, in humorist theory, was held to be responsible for the depressed affect. One of the earliest extensive monographs on depression, "The Anatomy of Melancholy", was first published in 1621 by Burton, an Oxford clergyman, himself a sufferer from recurrent melancholia. He described three divisions of melancholy, "the head melancholy", "the body melancholy" and finally "the hypochondriacal or flatuous melancholy", in which "no physician can truly say which part is affected". He recognized, however, that hypochondriacal symptoms may occur without depression or overt anxiety, for "fear and sorrow are not general symptoms: some be sad and fear not; some neither fear nor grieve. The rest there are, beside fear and sorrow, sharp belchings, fulsome crudities, heat in the bowels, wind and rumbling in the guts, vehement gripings, pain in the belly", etc. Burton quotes many cases from classical and mediæval literature, including an interesting case of circumscribed psychotic hypochondriasis from Felix Platerus.

> [Platerus] hath a most memorable example of a countryman of his, that by chance of falling into a pit where frogs and frog-spawn was, and a little of that water swallowed began to suspect that he had likewise swallowed frog-spawn; and, with that conceit and fear, his phantasie wrought so far, that he verily thought he had young live frogs in his belly, qui vivebant ex alimento suo, that lived by his nourishment, and was so certainly perswaded of it, that, for many years following, he could not be rectified in his conceit, he studied physick, seven years together, to cure himself, travelled into Italy, France and Germany to conferr with the best physicians about it, and, Anno 1609, asked his counsel amongst the rest. He told him that it was wind, his conceit, etc., but Mordicus Contradicere et ore et scriptis probare nitibatur: no saying would serve: it was not wind but real frogs: and do you not hear them croak? Platerus would have deceived him, by putting live frogs into his excrements, but he being a physician himself, would not be deceived, vir prudens alias et doctus, a wise and learned man otherwise, a doctor of physick, and after seven years dotage in this kind, a phantasia liberatus est, he was cured.

In the eighteenth century, hypochondria was referred to on the continent of Europe as "the English Malady", as it had in England achieved a certain respectability, so that anyone who could afford to do so would enjoy frequent "cures for all sorts of imagined ills" at fashionable spas. The nineteenth century hunt for organic abnormality in illness led to the belief that "*hypochondria cum materia*" was the rule, and that if no local organic change, however trivial, was found ("*hypochondria sine materia*"), the symptoms arose from the misinterpre-

tation of sensations from bodily illness elsewhere. However, Forbes Winslow (1863) realized that psychological factors played an essential role, and wrote as follows:

> . . . that psychosomatic disease termed hypochondriasis which manifests itself principally in a morbid anxiety as to the health, is in its primitive nature, essentially a diseased concentration of the attention upon, and consequent exaggeration of conditions of physical sensibility, resulting from slight bodily ailments which eventualy assume to the distempered and deluded imagination a grave significant character.

Nowadays, hypochondriacal conditions are usually regarded as in the province of psychopathology rather than of pathology. Differentiation is made between "hypochondriacal anxiety" (a morbid and continuous attention to the state of health, or an anxious concern out of all proportion to the bodily symptoms) and "hypochondriacal delusions" (false beliefs about the nature of bodily symptoms, or false convictions of illness in spite of adequate reassurance or evidence to the contrary).

Although some authors believe that "hypochondriacal neuroses and psychoses constitute . . . a clinical entity" (Schilder, 1951), or that there is "basis for the nosological isolation of hypochondria as a clinical reaction type in its own right" (Gillespie, 1928), most recent authorities regard hypochondriacal complaints as the symptomatic expressions of a more extensive psychosis or neurosis. Bleuler (1924) wrote, "We no longer recognize hypochondria as a disease", and appears to have regarded it either as an exaggerated personality trait or else as symptomatic of psychotic or neurotic illness; whilst those patients with fixed and circumscribed hypochondriacal delusions who failed to recover, he included in the "group of schizophrenias".

People with neurotic illness commonly present themselves to the physician with somatic complaints or concern over bodily functions, whilst hypochondriacal symptoms, varying from the indefinite to the overtly delusional, may herald the onset of a major psychosis. If psychiatric illness is to be treated early, if the small but definite psychiatric mortality from suicide and the considerable psychiatric morbidity from chronic mental illness are to be alleviated, it is important to evaluate, and deal with, the psychopathology as well as the pathology which may underlie a somatic complaint.

Hypochondriacal phenomena may be arbitrarilly divided into the following three categories (although their boundaries are on occasion indistinct, and they are by no means mutually exclusive): (i) the personality trait of body over-concern; (ii) hypochondriacal anxiety; (iii) hypochondriacal delusions.

Body Over-Concern.

Cameron (1947) describes body over-concern as "an exaggeration of the normal body care and body concern to which everyone in our culture today is educated". It may vary from an unduly punctilious observance of hygiene rules to the "chronic invalid reaction", in which the individual's days are spent in consideration of his state of health, with most of his activities fashioned to this end. However, on scrutiny, many such individuals, who include not a few famous persons in their ranks, manage to pass remarkably active and successful lives in spite of (perhaps because of) their benign invalidism. So long as no major social disability occurs, other than being regarded as a bore by their friends and a trial by their physicians, this state is best regarded as a personality trait differing only in degree from the cultural "norm". Indeed, in some social circles, invalidism carries a measure of status for the person who seemingly struggles so bravely in the face of such adversity. Invalidism may also subserve an egosyntonic function by providing a rationalization for inadequacy or failure, and it may be self-perpetuating. "The hypochondriac . . . has become reaction sensitive to his body processes." (Cameron, 1947.) He not merely complains more, but also has more to complain about.

The acquisition of normal body concern is part of childhood training, and parental over-concern, family attitudes, the occurrence of illness in the environment, etc., will influence this. Levy (1932) studied a group of children who showed "excessive body interest", and found that the recurring factors were maternal over-solicitude, the occurrence of illness in loved ones, frequent contact with clinics, doctors, etc. He concluded that "there had been a sick social milieu and strong identification with love objects in the milieu".

Cameron (1947) points out that the child's first moral lessons are learned in relation to feeding, cleansing, toilet training, etc., not in relation to abstract principles. That which his mother requires of him he learns is good. Refusal to eat, dirtiness, genital manipulation and failure to do his duty on the pot are all bad. The child is quite unable to conceive the wider ethical implications of this training, which are self-evident to the adult. However, rewards and punishments come with simple directness from persons, never from abstract symbols. "Disguised visceral ethics" (with the endless confusion of cleanliness and godliness, of genital function and problems of evacuation with pregnancy and social sin) are seen in the self-righteous preoccupation over diet, digestion, elimination and reproductive rhythms which so many hypochondriacs show.

Hypochondriacal Anxiety.

Distinction between the "personality trait" and the "neurotic symptom" is indefinite and partly semantic. Hypochondriacal patterns which do not cause persistent social disability or personal distress, or which seem to serve a function in helping a patient to achieve some degree of adaptation to his particular life situation, are probably best regarded at trait level.

Almost everyone develops overt anxiety in certain situations. This is part of normal mental functioning and acts as a spur to normal social behaviour, etc. In mental health, the situation is dealt with by certain integrative mechanisms—"ego defence mechanisms" which aim at restoring the *status quo* of the mental equilibrium. However, excess anxiety may result from "conflict situations". According to "neurotigenic conflict" theories of neurosis, symptoms result from (unconscious) emotional conflicts which engender anxiety. Neurotic mechanisms serve to protect the self (ego) from otherwise intolerable levels of anxiety—often in a symbolic way. Behaviourist psychologists, on the other hand, hold that social behaviour patterns evolve on the basis of trial and error (or contiguity) learning from previous responses to similar stimulus situations. Certain "conflict" or "frustration" situations act as stimuli to multiple but incompatible behaviour responses (such situations as will produce "traumatic neuroses" in the experimental animal). The resultant response is to some extent chance determined from those which are immediately available to the organism (Maier, 1949), but once having occurred, is apt to recur. Thus Wolpe (1954) regards neurosis as "persistent unadaptive learned behaviour".

Thus, in most currently accepted theories, neurotic mechanisms are held to deal with conflict anxiety more or less successfully at the development of the neurotic symptoms. In this sense they are "maladaptive responses". The "conversion hysteria" reaction is held to deal with neurotic anxiety so effectively by the mechanisms of conversion and dissociation that the resultant mood is characterized by "*belle indifférence*". The affective setting of the true hysterical symptom is thus in sharp contrast with that of the neurotic hypochondriacal symptom, in which anxiety persists or is prominent.

In acute anxiety states, overt anxiety is the predominant feature. High levels of "free floating" anxiety are extremely disturbing to the personality, and anxious preoccupation with bodily functions commonly occurs. This somatic investment of anxiety is viewed differently according to different theoretical frames of reference—

as "narcissistic investment of object libido", as "body image disturbance", as "introspective perceptual sensitization to the somatic accompaniments of anxiety", etc.

Hypochondriacal anxiety with single, multiple or recurring complaints of somatic symptoms is common in many neurotic syndromes, especially so-called "neurasthenic" and acute anxiety states. In the neurotic setting, the symptoms are never delusional although the over-all hypochondriacal concern may be remarkably fixed. Often the pattern of hypochondriacal symptoms bears a symbolic relationship to the neurotic conflict. For example, an immature girl with (unconscious) pregnancy fears may develop anxiety and abdominal symptoms when an older sister with whom she identifies goes into hospital to have a baby. Examination of the symptoms may yield a clue to the patient's emotional problems. Indeed, this is occasionally obvious to all except the patient herself.

Brown (1936) mentions "purposive hypochondriasis — body complaints with some more or less conscious purpose for the individual". However, to suggest that the neurotic is necessarily aware of his motives is a great under-estimate of man's capacity for intellectual and emotional rationalization. Because the physician can discern the symbolic meaning or "purpose" of a symptom, it does not mean that the patient suffers "on purpose". Conscious deceit on the part of the patient has no place in the concept of neurosis.

Individual somatic complaints seldom respond to simple reassurance, except temporarily, or only to be replaced by other symptoms. Therapy should aim at understanding the conflict situation, dealing with the anxiety and helping the patient to find a more satisfactory solution to his life situation.

Hypochondriacal Complaints in Psychotic States.

Hypochondriacal symptoms are also common in the psychotic syndromes—schizophrenia, manic-depressive illness and the symptomatic psychoses. Brown (1936), examining 226 consecutive psychiatric clinic admissions, found that bodily complaints featured in 55% of depressive and 48% of schizophrenic patients. Whilst delusions of bodily illness may clearly indicate a psychotic process, patients with psychoses not infrequently present in the earlier stages with indefinite and polymorphous hypochondriacal complaints. Few psychiatric authors offer a precise and simple definition of psychosis. It appears easier to describe than to define the difference between psychotic and neurotic symptoms, and their recognition depends upon their severity, upon the characteristic pattern of the illness or upon the occurrence of symptoms which imply "a break with reality". Sometimes it is impossible to recognize with certainty the significance of early psychotic hypochondriasis. "In Schizophrenia Simplex, hypochondriasis may be the only positive symptom, while the emotional flattening is not easily recognized and often overlooked." (Mayer-Gross *et alii*, 1954.) Nevertheless, there is sometimes an indefinible quality about the complaint, or about the way in which it is presented to the physician, which may betray the incipient psychotic process. Fully developed hypochondriacal delusions in schizophrenia are often bizarre and reflect the chaotic sexuality of the process. The symptoms may represent pregnancy phantasies, delusions of sex change, etc., in symbolic guise. In the "pseudo-neurotic" form of schizophrenia, too, the indefinite hypochondriacal preoccupation and complaints which form part of what Hoch and Cattell (1959) term pan-anxiety, pan-neurosis and pan-sexuality may also betray the theme of chaotic sexuality in ruminations about masturbation, sexual performance, changing physical features, etc.

In depressive psychosis (melancholia), the bodily symptoms usually stem from the depressed effect. Characteristically depressive hypochondriacal delusions have a nihilistic quality. The patient believes that his bowels are blocked up, his intestines are rotted away, his head is empty, etc. A relatively frequent "*délire de négation*" is the conviction of a depressed patient that he gets no sleep whatsoever, even though he may be observed by the night nurse to sleep for considerable periods. These complaints are often presented in a setting of guilt and self-reproach, so that the patient believes his condition is hopeless and has resulted from previous wickedness or "sin". Melancholia is held by many to be particularly prevalent in individuals of obsessional rigid personality. Such patients may be unable at first to accept that they are suffering from a psychiatric illness. They may deny their depression to others, admit their guilty rumination only to the priest and complain to their doctor only of vague bodily symptoms of reduced function—for example, constipation, dragging pains in the stomach, poor concentration, etc. The risk of suicide in melancholia places its recognition in the category of "medical emergency", and on occasion depressive hypochondriacal symptoms may provide the only clue.

In the symptomatic psychoses (toxi-confusional states, etc.), the bodily complaints may represent any combination of somatic physiological malfunction and psychotic elaboration.

There remains a group of patients with fixed bodily delusions in the absence of any other clinical features of schizophrenia or depression. This condition may be termed "monosymptomatic delusionary hypochondriasis". The symptoms often have a bizarre or, to the observer, ludicrous quality, and may remain remarkably constant for long periods without any evidence of personality deterioration. Platerus's case, cited by Burton (above), illustrates the prolonged natural history and occasional spontaneous recovery which may be seen; but many other patients eventually develop a clearly schizophrenic illness, and the condition is best regarded as a variant of the "group of schizophrenias" resembling in many ways paraphrenia.

Indeed, at a phenomenological level, there is a considerable similarity between hypochondriacal delusions and paranoid delusions. Both commonly occur in schizophrenia, in which they may indicate symbolically the patient's chaotic sexuality, and in melancholia, in which they reflect the depressed mood. The paranoiac believes himself to be persecuted from the outside world and often repeatedly demands protection from the law; the delusional hypochondriac suffers at the hands of his body, and may seek the aid of doctors with equal desperation, but is no more able to accept the advice proffered unless it accords with his delusional system. It is as though the paranoid projection has taken place from self to body, which becomes the persecuting agency. One woman with hypochondriacal delusions recently seen by the writer had visited numerous doctors daily, and had spent almost all her money on medical consultations, so that her children had gone without food. Another forged cheques solely in order to obtain medical advice, and consulted no fewer than 12 different doctors in the space of a fortnight.

Management.

The importance of recognizing the hypochondriacal status of a bodily complaint when the patient first presents himself rests on the therapeutic value of early diagnosis in psychotic mental illness (even the prevention of tragedy in melancholia), and also on the avoidance of medical mismanagement of the symptom in the neurotic or "body-sensitive" patient. The natural history of the anxious hypochondriac is to progressive elaboration and introspective concern, and writers stress the iatrogenic factors involved in this process. "Doctors, by satisfying a complaint with medical remedies, aid its perpetuation." (Mayer-Gross *et alii*, 1954.) A number of authors have dealt particularly with three aspects of this problem: (i) failure to consider a possible psychopathology in the first instance and unnecessary investigation or over-investigation as a consequence; (ii) dismissal rather than treatment of the symptoms once the psychological status of the complaint has been recognized; (iii) continued treatment of a benign condition found incidentally on investigation which is not in itself a "sufficient cause" to account for the symptoms.

It has been pointed out that medical education is preoccupied with pathology and nosology. The student is

first taught to make a "diagnosis" from "symptoms" and "physical signs". Psychological factors receive scant attention, and the status to which they are relegated is implied in the oft-repeated maxim: "Exclude organic causes first." Although most physicians recognize the importance of emotional factors, this approach too often remains. Lipin (1955) points out that "diagnosis by exclusion is in any case particularly ineffective. The idea that a somatic symptom is related to psychopathology because medical studies fail to establish its organic nature is merely a hunch".

By considering the status as well as the phenomenology of a somatic symptom, it is often possible to determine its role in the patient's illness. Lipin suggests that the symptom of an organic lesion may be seen to represent an "assault" on the psyche, whereas the functional symptom may be seen as a "defence". The functional defence symptom may, of course, result from stress at any level of biological functioning. An hysterical paresis may result from severe emotional conflict as a symbolic conversion of affect, or may occur in a previously stable personality after minor domestic stress because early arteriopathic dementia has restricted the patient's habitual ego-defence patterns. The status and role of the symptoms have to be assessed against the patient's habitual pattern of personality functioning.

Organic-functional dualism is an artefact of medical thought. As Cobb (1952) put it:

> Since function depends upon cellular activity . . . that is, changes in the tissues . . . to use the term functional to mean psychogenic indicates that the user has stopped thinking physiologically. The only concept available to modern science is that the human organism is a working unit.

It is the patient, not the disease, that is under treatment. Of course, hypochondriacal patients are not less susceptible to the development of visceral illness than is the general population, and any new complaint merits consideration in its own right. However, repeated investigation of the same symptom complex in the anxious patient carries with it the risk of prolonged psychiatric morbidity.

Even when a symptom is recognized as having psychological causation, it is often dismissed with but cursory reassurance. Adolf Meyer (1919) wrote:

> The two big sins of the physician against the neurotic are apt to be the dismissal of the patient with "Nothing the matter with you" (perhaps a hint that he or she had best go to Christian Science or some other cure all), or the statement "What I find is enough to account for all your nervous symptoms". Either statement is apt to encourage neglect in the examination of the psychopathological and the situational status of the patient. Well directed attention to the settings will make the verdict safer for the patient, and ultimately do better justice to the responsibility of the physician.

Often the patient carries back from his visit the impressions gained, not from the brief interview with the doctor, but from hours spent sitting anxiously in waiting rooms, X-ray departments, etc.

Cantor (1950) points out, too, the semantic gulf which may exist between physician and patient. In using medical or semi-medical terms to reassure the patient of the benign nature of his complaint, the physician may merely present the patient with further grounds for anxiety.

> I cannot over emphasise the importance of the use of simple terms and familiar illustrations in describing pathology to the patient. Technical terms to the patient may mean cancer. The patient's Aunt Jenny may have had the diagnosis of colitis but Aunt Jenny died (possibly from carcinoma of the colon). To the patient therefore, colitis means death or cancer.

It often happens that the investigations undertaken disclose some minor benign "organic" condition—which, though playing a part in the evolution or at least localization of the patient's symptoms, does not account for the patient's "illness". Over seventy years ago, Clifford Allbutt (1884) wrote:

> A neuralgic woman seems to be particularly unfortunate. However bitter and repeated may be her visceral neuralgias, she is told either that she is hysterical or that it is all uterus. In the first place she is comparatively fortunate, for she is only slighted; in the second case she is entangled in the net of the gynæcologist, who finds her uterus, like her nose, is a little on one side, or again, like that organ, is running a little, or it is as flabby as her biceps, so that the unhappy viscus is impaled upon a stem or perched on a prop, and is painted with carbolic acid every week in the year except during the long vacation when the gynæcologist is grouse shooting or salmon catching or leading the fashion in Upper Engadine. Her mind thus fastened to a more or less nasty mystery becomes newly apprehensive and physically introspective and the morbid chains are rivetted more strongly than ever. Arraign the uterus, and you fix in the woman the arrow of hypochondria, it may be for life.

Higier, writing in 1928, used the term "Hypochondria iatrogenetica" to describe such possible iatrogenic hazards as "Hypochondria pseudosyphilitica" or "pseudotuberculosa"—sustained over years by constant blood, cerebro-spinal fluid or sputum examinations of people once infected or never even infected; "H. arteriosclerotica"—constant suggestion that every pain in chest, limbs, etc., every attack of dyspepsia or vertigo, is arteriosclerotic or presclerotic; "H. hypertonica"—disturbing the psychic equilibrium by measuring and recording every transient or slight change of blood pressure; "H. dietetica"—from laying down unnecessarily strict dietetic rules, so that the patient becomes over-concerned about minor deviations and assumes these to be ætiological to his condition; "H. sexualis"—in which the physician ascribes every sexual defect (seminal emission, ejaculatio præcox, frigidity or impotence) to some old, long-cured gonorrhœa or to some small congenital or local defect, and continually maltreats the patient with local procedures to urethra, perineum, anus, etc., instead of tackling the sick train of thought; "H. matrimonialis"—in which coitus reservatus, interruptus, condomatus, etc., are invariably banned and presented to the couple as a serious pathogenic factor; "H. roentgenographica", etc., etc. Although many of his categories have a somewhat outdated air in the present decade (and hemicolectomy is no longer performed for "auto-intoxication" as it was thirty years ago), some of our current preoccupations may well appear outmoded to future generations. Crookshank (1930) wrote:

> I often wonder that some hard-boiled and orthodox clinician does not describe emotional weeping as a new disease, calling it paroxysmal lachrymation, and suggesting treatment by belladonna, astringent local applications, avoidance of sexual excess, tea, tobacco and alcohol, and salt free diet with restriction of fluid intake; proceeding in the event of failure to early removal of tear glands. This of course sounds ludicrous. But a good deal of contemporary medicine and surgery seems to me to be made on the same level.

Conclusion.

The problems of assessment and management of the hypochondriacal patient are partly concerned with the hypochondriacal symptom itself. Hypochondriacal anxiety stems from psychological conflict. Explanation that no structural disease can be found in the organ seldom resolves this. If the "symptom" disappears, it is usually to be replaced by some other neurotic mechanism. Again, the psychotic hypochondriacal delusion is no more open to correction by rational explanation than is the paranoid delusion. In either case, the patient may merely become more anxious or convinced that the doctor is mistaken, or is holding something back, or is incompetent — and seek medical advice elsewhere.

Three patients recently encountered by the writer may be cited in this context. A man, aged 47 years, had spent many hundreds of pounds in the space of five years on chest investigations, including bronchoscopy, bronchograms, tomograms, etc., etc., although no definite disease had ever been demonstrated. A woman, aged 37 years, had undergone seven abdominal operations in the

space of three years without any clear pathological process having been noted in the operation records. Hospital case records of a woman, aged 29 years, contained notes of her referral for specialist opinions on no fewer than 22 occasions in 26 months' out-patient attendance, and she had visited most hospital departments on more than one occasion, although only the final referral was to the psychiatric unit. When examined, all three patients complained of virtually the same symptoms, which had been present at the onset of their illness. The first patient was clearly psychotic, whilst in the other two cases there was a neurotic basis for the symptoms, which were relieved with psychiatric treatment. All three patients had seen many different doctors, and when (with difficulty) medical reports were obtained from as many as possible, it became evident that investigations, even laparotomy, had been repeated on more than one occasion, in spite of previous negative findings, of which the doctor currently concerned was ignorant. Because of the hypochondriacal "affect of conviction" (Gillespie, 1928), such patients are often vague or misleading about previous medical consultations and advice. One patient said: "If I told you what the others had said, you might not approach the problem with an open mind. I'm convinced that there is something there."

Clearly, the evaluation of a patient's symptomatology necessitates a consideration of every possible pathology (including psychopathology) along with whatever medical investigation may be indicated. Nevertheless, the importance of the correct evaluation and management of the hypochondriacal state at the earliest opportunity in its natural history cannot be over-emphasized.

Summary.

The historical development and current use of the concept of hypochondria are briefly summarized. Various medical authors have, over the past century, alluded to the dangers (in terms of psychiatric morbidity) which may follow failure to recognize and treat hypochondriacal states early in their natural history. This may be made the more difficult by the very nature of hypochondriacal illness.

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CORRECT WEIGHT: THE RETURN TO BANTINGISM.

By A. R. SOUTHWOOD, M.D.,

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> Oh! that the faculty would look deeper into and make themselves better acquainted with the crying evil of obesity—that dreadful tormenting parasite on health and comfort.
>
> William Banting (1864).

> The most serious and widespread kind of malnutrition today—at least in the Western world—is obesity.
>
> Magnus Pyke (1960).

The Menace of Obesity.

ESPECIALLY in countries of ample food and leisure, there is growing concern over the hazards of overweight in the population. Medical officers and statisticians of the great life insurance companies stress the effect of obesity in shortening life. Physicians note the greater incidence of hypertension, atherosclerosis and diabetes in the obese. The unæsthetic and uncomfortable features of being fat are apparent to everybody.

Yet obesity is no new problem, even if it is an increasing one. Certainly now its risks are more generally recognized. The correction of the malady continues to present such difficulties as William Banting met when he tackled his personal problem a hundred years ago. Banting's little book (1864) set out for sufferers such practical advice as might be given by any sound physician today:

> The items from which I was advised to abstain as much as possible were bread, butter, milk, sugar, beer, and potatoes, which had been the main (and I thought innocent) elements of my existence.

With all the advances of modern biochemistry, and with the expanding knowledge of the principles of nutrition, Banting is still (in the essentials) up to date. There is better understanding of the matter now, and the basis for action is clearer—but Banting and his physician William Harvey knew what to do almost as well as we do today.

When is a man fat? What is the criterion of obesity? Neat little tables are often presented, indicating the desirable weight for people of various heights, sometimes for ages and sex too. Such well-known tables are mere approximations, based generally on average findings of large groups. The variables are many. Race and country, environmental conditions and especially the availability of foodstuffs—all those are factors influencing the average weight of people. Yet some sort of standard can be helpful as a guide for patients. Banting gave "a tabular statement supplied by a kind friend, in regard to weight as proportioned to stature"; a slightly modified form of that table is given by Kemp (1959). Simply put, a person 5 ft. high should weigh about 120 lb.; 6 ft., 180 lb.; 5 lb. being added for each inch above 5 feet. This is a convenient rating to follow.

Attack on Overnutrition.

"I've always been too fat", said Mr. H., aged 44 years, when he reported on May 7, 1922. He then weighed 229 pounds, and looked grossly fat. His height was not recorded. Diet was prescribed: meat, eggs, bacon, fish and vegetables as desired; a piece of fruit once a day; not more than half a slice of bread twice a day. A thyroid tablet daily (5 grains, old style), was ordered. Mr. H. asked if it would be better for him to have no bread; he

was told that he could try, but that he would find it hard to forgo bread entirely.

On June 11, he weighed 220 pounds; he said he had followed the programme, and that he had taken no bread for the five weeks. He continued on that restricted diet till January 16, 1923, and steadily declined in weight—he weighed 187 pounds. He had lost 42 pounds in 36 weeks. He added the small daily allowance of bread. On April 24, 1923, he weighed 178 pounds; on August 14, 1923, he was still at that level. Adequate follow-up was not possible, but I recently learnt that Mr. H. continued in active work till about 12 years ago, that he did not relapse into obesity, and that he died "from blood-pressure" at the age of 80 years. Had he remained fat, it is unlikely that he would have done so well.

Mr. H.'s case was almost parallel to that of Banting. Banting lost 46 lb. in a year, Mr. H. 51 lb. Such results commonly follow when the obese patient adopts the Banting programme. No thought about calories or of weighing the food is needed; the determined adherence to the qualitative regimen is what matters. It is a similar dietary plan to that advised for diabetics in the days before the Allen-Graham ladder diets and before the insulin era of the other great Banting.

Biochemistry was in its infancy about 1920. For a few years before then, the medical course had included a short and elementary set of lecture-demonstrations on physiological chemistry. In 1919 Brailsford Robertson brought to the Medical School in Adelaide knowledge of and enthusiasm for the new biochemistry, which quickly came to take a prominent place in the students' preclinical training. Graham Lusk's classical studies on "The Science of Nutrition" introduced to Robertson's students the early knowledge of that branch of biochemistry; Lusk's chapter on starvation still provides a valuable introduction to any study of obesity (Lusk, 1919). Professor McCance's Rolleston (Royal College of Physicians) lectures on "Over-nutrition and Undernutrition" admirably present his views on some of the present problems (McCance, 1953).

The Thousand-Calorie Diet.

It was common practice a few years ago to prescribe daily a thousand-Calorie diet for fat people, advising them to adhere to it until the weight fell appreciably. Sometimes it worked well, but often the response was slow. Surely, it was thought, an intake less than half the ordinary amount needed for the energy expenditure should involve the burning-up of the surplus fat stores to meet the deficit, and so lead to a prompt reduction in weight. The complete answer to the riddle of why failures sometimes occurred is still not apparent. Sometimes, no doubt, patients were not "playing fair". But that was not the full answer.

Professor Kekwick and his colleagues (Chalmers *et alii*, 1958) conducted a series of experiments, for short terms of up to a fortnight. They found that a significant feature is what foods are used to give the thousand-Calorie energy-value: (*a*) if 900 of the 1000 Calories are provided by carbohydrates, half the patients are likely to show a slight loss of weight, but many will even gain a little; (*b*) if 900 of the 1000 Calories are from proteins, all will lose weight, some 600 grammes (1·3 lb.) daily and the average 300 grammes; (*c*) if fatty foods give 900 of the 1000 Calories, then all lose weight quickly, some to the amount of 700 grammes (1·5 lb.) daily, the average 500 grammes; (*d*) if the 1000 Calories are supplied in about the proportions of an ordinary mixed diet, the average daily loss is 180 grammes (0·4 lb.).

But they were short-term experiments; the use of longer periods in future studies should be even more illuminating. Whatever the constitution of the thousand-Calorie diet, weight loss invariably occurs if it is carefully followed for months. However, the diet is unpleasantly low, and not all patients have the will to keep to it.

Since this article was prepared, a report by Olesen and Quaade (1960) described longer-term trials. Those workers found that the weight loss in the obese ceased after a few days; they attributed it mainly to water loss. Continuing the diet gave results in accord with the intake of Calories.

The results of recent studies supply experimental proof of William Banting's ideas about anti-obesity dieting. They demonstrate the value of cutting down severely the carbohydrate intake. Kekwick's work does more; the value of a fat-rich diet is shown. Just how the fat-rich diet works is not quite clear; fats have a high satiety value, but that can hardly be the full explanation.

Kekwick's work also substantiates the thesis of the conservation of body protein. Even when his subjects were getting food giving only 500 Calories per day (20% from protein food), a negative nitrogen balance was rarely found. Approximate nitrogen equilibrium was maintained, except when the calorie intake and protein moieties were raised; on a two-thousand-Calorie intake with 100 grammes of protein per day, the subjects showed positive nitrogen balance. In general, even when ill-balanced diets were used in the experiments, there was no evidence of accelerated katabolism of protein tissues: Kekwick and Pawan used the excretion of creatinine in the urine as an index of the breakdown of endogenous protein (Kekwick and Pawan, 1957).

Fat-Rich Diets.

The idea of giving a diet rich in fats to reduce a fat man's weight seems quaint; yet recent studies show that even a relatively high diet of 2600 Calories can be effective, provided that the carbohydrates are restricted (Pennington, 1953; Kekwick and Pawan, 1956).

The fear of inducing ketosis in the fat patients through carbohydrate deprivation can be disregarded, it seems. The obese person, for some reason not yet clear, is less likely to show ketosis from the abnormally balanced diet than are those of ordinary weight (Dodds, 1959). Many years ago Stefannson, the Arctic explorer, studied the Eskimos' dietary; he showed that a generous intake of proteins and fat, with little or no carbohydrate, was compatible with good health and ordinary weight.

And what of atherosclerosis? A commonly-held view is that the condition is induced, or at least aggravated, by a dietary rich in fats of animal origin. But that matter is by no means settled; further research is necessary to clarify the relationship of dietary fat and atherosclerosis. For the present it can be said that neglected and gross obesity is a greater danger to cardio-vascular efficiency than is a dietary intake of high fat content.

Further, modern researches show that the metabolism of fat is not the primary feature in obesity—the carbohydrates are the culprits. The work of Professor Kekwick and others suggests that the metabolism of the obese person differs in some way from that of the normal subject. The fat person loses weight, even on a protein-rich, fat-rich diet of full calorie content, if the carbohydrate intake is kept low; that does not occur in the normal person. Further, carbohydrate deprivation in the obese does not lead to ketosis or to hypoglycæmia as it does in other people (Dodds, 1959). The explanation of the difference probably lies in some aspect of intermediate carbohydrate metabolism. The association of obesity with diabetes is common. In each condition the basic abnormality is in carbohydrate utilization. In diabetes, the difficulty leads to hyperglycæmia and glycosuria; in obesity, the surplus carbohydrates in the dietary lead not to glycosuria but to increased deposition of fats in the body. As time goes on, the patient may be found enmeshed in both troubles, obesity and diabetes.

The intensive work of biochemists during the last thirty years on the metabolism of glucose supports the idea that the obese person is the victim of a metabolic disorder, which interferes with the normal use of glucose. If he subsists on a low-carbohydrate food intake, the evidence of his disability—obesity—does not appear; the condition is latent. Let him continue to take generously of the ordinary mixed dietary, and obesity becomes obvious. In short, there appear to be two factors in obesity production—(i) some abnormal feature in intermediate carbohydrate metabolism in the individual, and (ii) the continued taking of a generous dietary, rich in carbohydrates.

Can Drugs Help in Weight-Reducing?

At some time most physicians have prescribed drugs in addition to some kind of dietary adjustment. Little reliance is placed on the value of medicaments for this purpose now, though not all will go as far as Kemp (1959) in proscribing their use entirely. Yet even if drugs may help a small proportion of patients with obesity, generally the simple regulation of the diet alone is the preferable treatment.

The drugs recommended on occasions may be grouped according to mode of action: (i) metabolism-stimulators; (ii) appetite-spoilers; (iii) stomach-fillers; (iv) digestion-depressors; (v) tranquillizers.

It was common to give thyroid tablets, in the hope of activating katabolism. Good results followed in obese patients who happened also to be subthyroid; in other fat people harm might arise from cardio-vascular disturbances. Thyroid treatment, effective in subthyroidism, has no place in the treatment of ordinary obesity.

The use of 2-4-dinitrophenol and some other substances as metabolism-stimulators, enthusiastically taken up in the United States about 25 years ago, was soon dropped when the danger of hyperthermia—even to the stage of fatal heat retention—was recognized; another side-effect was the occurrence of cataract.

Appetite-spoilers have been tried, the most popular—at least after cigarette-smoking—being dextroamphetamine. The therapeutic effects are variable, and the side-effects may be annoying and harmful.

Substances of little or no nutritive value have been recommended for inclusion in the diet, especially as "filling for the stomach". Biscuits containing carboxy-methyl-cellulose were popular for a time a few years ago. They are little heard of now. The special biscuits appeared harmless, but not very useful for fat-reducing. They were generally uninviting; their palatability was that of the bran biscuits advised for diabetics in pre-insulin days.

Recent Press reports of "a new drug that may be the slimmer's dream" referred to pharmacological studies being made at Guy's Hospital. "The drug, trimethyl-hexadecyl-ammonium stearate, works by preventing absorption of food by the intestinal tract." If the drug is so potent, its use would appear hazardous, especially if the effects are irreversible. Interference with such an essential function as alimentary absorption is not to be undertaken lightly.

Tranquillizing drugs have little or no place in the treatment of obesity.

What of other aids? "Take more exercise" is commonly advised; Banting got no help from that. He also took a long course of Turkish baths—over ninety—and found them valueless. When eventually he was led to take the appropriate foods, when it had "pleased Almighty Providence to direct me into the right and proper channel of happy comfortable existence", he found no need for any adjuvant measures.

Diets for Weight-Reducing.

Most patients are helped in their efforts to reduce if they have a clear-cut printed programme to follow. They need not concern themselves about calories, or about weighing the food. All that is required is slight and elementary knowledge of the content of the ordinary foodstuffs, and—most important of all—ability to stick to the programme. Commonly at first the patient finds it difficult to be satisfied with little or no bread; he may ask, "Can I have biscuits or cake instead, doctor?" But he has to learn to restrict drastically the carbohydrate intake. Once the elements of the programme are understood and he becomes accustomed to the altered meals, and especially when the weighing-machine and his better state of health tell him he is making headway against his incubus, he is heartened in his efforts and achieves success.

Three things help to assure success in the treatment of obesity: (i) a patient strong-willed enough to follow the programme for six months or more, and intelligent enough to understand the plan of treatment; (ii) a physician well-informed on the bases of nutrition and prepared to devote time to explain to the patient the relevant items; (iii) a simple, clear-cut dietary regimen.

H. L. Marriott (1949) published a useful list. It began with the statement "Eat as much as you like of these foods: . . . " Good psychology! The more difficult items—"Have little or no bread"—lower down the list were less cheering. But Marriott, besides restricting carbohydrates, deleted fats as well: "No butter, margarine, fat or oil." So did Taylor (1951). Professor J. C. Aub of Boston used to let his obese patients have "snacks" between meals—to spoil the appetite, he said (1934). Now that metabolic studies have shown that the obese can have fats, even generously, the dietetic regimen is less distasteful. Yet for most people complete deprivation of carbohydrates is unpleasant, and can hardly be tolerated for more than a few days (Southwood, 1923); fortunately the restriction need not be of that extreme degree. Vegetables of low carbohydrate content and an allowance of fruit overcome much of the objection.

The directions for the patient may suitably include these points:

1. Protein foods should be eaten in ample amounts. You may eat freely of meat, bacon, ham, fish, poultry, eggs and cheese. Avoid made-up meat dishes which have added bread, potatoes or flour: sausages, fritz, saveloys, frankfurts.

2. Fat may be eaten in ordinary amounts: butter, cream, margarine, lard and cooking fats. Fried foods are not forbidden.

3. Sugar and sugary foods should be given up: jam, syrup, honey, sweets, chocolate, ice cream. Saccharin may be used for sweetening, but it is better to lose your taste for sweets.

4. Starch must also be much reduced in your dietary. Avoid foods containing flour: bread of any kind, cakes, pastry, puddings. Rice, oatmeal, breakfast cereals, macaroni, peas, beans, and potatoes are also rich in starch: take only very little of any of them.

5. Fruit and vegetables: eat freely of all green and root vegetables, except those mentioned in the previous paragraph. Fresh fruit and fruit cooked without added sugar may be taken, but no dried fruits or fruit preserved in syrup.

In most cases good results quickly follow adherence to that programme.

The aim is to lose about 2 lb. a week at first, and later only 1 lb. a week. That kind of gradual reduction is generally preferable to rapid loss. If the prompt improvement does not occur, a few weeks' treatment in hospital is advisable, with an initial daily dietary of 100 grammes each of protein, fat and carbohydrate (the "3 times 100" diet), giving approximate calorific proportions 25%, 50% and 25% respectively. Gradually the protein and fat proportions may each be raised to 140 grammes, and the carbohydrate reduced to 50 grammes, to make the calorific proportions from protein 30%, from fat 60% and from carbohydrate 10%. The details are calculated by the dietitian. When the patient's long-term dietary is settled on, the foodstuffs and the approximate amounts of them are listed for the patient's guidance when he goes home. Physicians and nurses accustomed to treating diabetics will have no difficulty in planning the diet and in advising the patient, without worrying him with technicalities.

In some clinics the first stage of treatment is a short period of fasting. It is found that most patients can tolerate fasting for periods up to a fortnight, that a daily weight loss of two or three pounds can be obtained without harm, and that after the fast the patient is happy with a daily diet of 600 or 800 Calories (Bloom, 1959). However, Bloom does not advise fasting as a routine procedure for weight reduction.

Education in the elements of nutrition is the only effective approach in the treatment of obesity, and in its prevention. Fasting and extreme dietary restrictions are unattractive to most patients, and are not suitable

for the patient living at home. Easy programmes as set out by Marriott and by Kemp will be preferred. Simplicity in treatment—at least in the directions for patients—is the aim of most physicians. For our fat patients we have tried low-calorie diets, we have prescribed drugs. Let us now tell them there is no need to starve to grow thin. In short, tell them to bantingize.

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ON THE INCIDENCE OF TUBERCULOSIS IN VICTORIA.

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COMPARED with so many other parts of the world which are grappling with the problem of over-population, chronic unemployment and under-employment and inadequate nutritional standards, Victoria is indeed in a fortunate situation. It is because of this that an analysis of the local trends in tuberculosis is of particular interest, for this is a disease whose association with social and economic questions is well known. As a preliminary, a brief discussion of recent economic happenings is presented.

Since the end of World War II, more than a million migrants have entered Australia. The population rose from 8,900,000 at the census of June 30, 1954, to 10,200,000 in December, 1959. Of the total population increase in these five and a half years resulting from natural increase and migration, Victoria gained 33·1%. This compares with a gain of 31·1% by New South Wales, the next highest. Hence Victoria leads all the States in population growth.

An analysis of the population increase by migration indicates that far more migrants settle in Victoria than in any other State.

In the five years preceding March 31, 1959, Australia received 413,245 migrants. Of these, 43·5% settled in Victoria and 26·9% in New South Wales. Of those settling in Victoria, the largest numbers were British, Italians, Dutch, Germans and Greeks in that order.

The post-war period has covered economic expansion on a big scale. Apart from a few minor setbacks, employment has stayed at a high level. Victoria's industrial expansion has resulted from the assurance of cheap and plentiful power from its own resources. The extensive brown coal deposits in the Latrobe Valley extracted by open-cut mining provides electricity, gas and briquette supplies. Additional sources of electricity are provided by the hydro-electric schemes at Eildon and Kiewa.

Australia's post-war migration contrasts markedly with other large peaceful migrations in history because of better selection and supervision. Before embarkation, migrants have to pass a medical examination which includes an X-ray examination of the chest. This ensures that the prospective settler is reasonably free from infectious disease. An attempt is also made to ascertain whether the migrant has a criminal record. This is presumably a lesson learnt from the large-scale importation of gangsters which took place in the United States earlier in this century.

TABLE I.

Annual Tuberculosis Notifications in Victoria, 1949 to 1959 Inclusive.[1]

Year.	All Forms of Tuberculosis.				Non-Pulmonary Tuberculosis.	
	Total Annual Notifications.	Notification Rate per 100,000 Population.	Total Annual Deaths.	Tuberculosis Death Rate per 100,000 Population.	Total Annual Notifications.	Total Annual Deaths.
1949	814	39	587	28	—	—
1950	836	38	443	20	—	—
1951	1006	44	407	18	22	42
1952	1013	43	346	15	37	36
1953	1121	47	279	11·6	32	38
1954	1143	47	245	9	36	24
1955	974	39	222	8·7	43	22
1956	895	34	194	7·1	48	16
1957	813	30	145	5·4	68	12
1958	776	28	145	5·3	76	11
1959	862	30	153	5·4	97	16

[1] The notification rates per 100,000 population for Australia were 46 in 1956, 42 in 1957, 40 in 1958 and 36 in 1959. The populations of Australia and of Victoria in December, 1959, were 10,200,000 and 2,800,000 respectively.

From an economic angle, the position has also changed. In bygone times the migrant and his family often lived under very adverse circumstances—sometimes for years—until sufficient money was accumulated to acquire a reasonable standard of domestic comfort. Wives struggled for years in poor housing; badly equipped kitchens and laundries made their lives a drudgery. Sometimes any advantage from emigration was reaped only by the children.

TABLE II.

Sex Distribution of Notifications.

Year.	Notifications for Pulmonary Tuberculosis.		Notifications for Non-Pulmonary Tuberculosis.		Total, All Forms.
	Males.	Females.	Males.	Females.	
1957	507 (62·5%)	238 (29·2%)	32 (3·9%)	36 (4·4%)	813 (100%)
1958	480 (61·9%)	220 (28·4%)	34 (4·3%)	42 (5·4%)	776 (100%)
1959	509 (59%)	256 (29·7%)	45 (5·2%)	52 (6%)	862 (100%)

A high level of employment, high wages and the hire-purchase system have favourably influenced the situation. A migrant leaving the ship with no assets other than the will and opportunity to work is able to acquire a minimum of comfort for his wife and family more or less immediately through hire purchase.

It is, of course, true that hire purchase has not been an unmixed blessing. Uncontrolled interest rates and unscrupulous advertising and salesmanship, coupled with

a low standard of literacy among many immigrants, have taken a heavy toll by forcing intolerable economic burdens upon the victims. Rather than lose all through repossession, many have worked excessively long hours, sometimes taking on two or more jobs.

It is against this economic and social background that the incidence of tuberculosis in Victoria is analysed.

The Present Situation.

In Victoria, the annual number of notified new cases of tuberculosis covering all age groups has in recent years not declined appreciably, although the number of persons who die of tuberculosis every year has fallen. Nevertheless, the number of patients considered to require sanatorium treatment has diminished. Because of this, and because of a quicker turnover of patients, waiting lists for admission have sharply decreased and beds are freely available.

TABLE III.
Notifications, All Forms, in Age Groups.
(With percentages in parentheses.)

Age Group. (Years.)	1959.		1958.		1957.	
	Males.	Females.	Males.	Females.	Males.	Females.
0 to 24 ..	95 (17·4%)	100 (32·5%)	78 (15%)	80 (31%)	84 (16%)	98 (36%)
25 to 44 ..	169 (30·6%)	125 (40·6%)	183 (36%)	123 (47%)	178 (33%)	112 (41%)
45 to 59 ..	144 (26%)	48 (15·6%)	133 (26%)	27 (10%)	152 (28%)	39 (14%)
60 to 80 and over	146 (26%)	35 (11·3%)	121 (23%)	31 (12%)	124 (23%)	26 (9%)
Total ..	554 (100%)	308 (100%)	515 (100%)	261 (100%)	538 (100%)	275 (100%)

TABLE IV.
Sources of Notifications.
(Percentage of total in parentheses.)

Source.	1959.	1958.	1957.	1956.
State clinics and institutions (other than mass X-ray surveys).	357 (41·4%)	242 (31·2%)	260 (32·0%)	291 (32·9%)
Mass X-ray surveys ..	186 (21·6%)	170 (20·9%)	194 (23·9%)	260 (29·3%
Public hospitals	35 (4·0%)	83 (10·7%)	91 (11·2%)	98 (11·3%)
Private practitioners ..	204 (23·7%)	170 (20·9%)	151 (18·5%)	110 (12·4%)
Repatriation	65 (7·5%)	94 (12·1%)	85 (10·4%)	105 (12·1%)
Death certificates	15 (1·8%)	17 (4·2%)	32 (4·0%)	21 (2·0%)
Total notifications ..	862 (100%)	776 (100%)	813 (100%)	885 (100%)

Although the figures in Table I are those used to give a guide to the over-all incidence of new cases in the community, they have been influenced by several factors. A scheme of Commonwealth tuberculosis allowances came into operation in July, 1950. This lessened the financial hardship experienced during a stay in sanatorium. Patients were more willing to come, and the notifications were influenced. In fact, as the tuberculosis allowance was payable whilst people were at home and waiting for a bed, some who had formerly tended to avoid the real nature of their illness being known now become keen to have it notified. From 1953 onwards, the waiting time for beds lessened, and ultimately beds were freely available even for elderly patients with chronic tuberculosis. This fact again tended to increase notifications. Furthermore, mass X-ray surveys became more intensive after 1949. This resulted in cases being notified earlier than might otherwise have been revealed. These comments apply especially to country areas, such as South Gippsland and the Latrobe Valley. The use of isoniazid in cases of primary tuberculosis may also have led to an increase in notification of such cases. Finally, the knowledge that beds and financial assistance are now available to sufferers from extrapulmonary tuberculosis has also influenced reported numbers.

Table II indicates that about one-third of the notifications for all forms of tuberculosis are for women, whilst from Table III it is still evident that a higher proportion of the women notified are in the younger age groups than is the case with men.

TABLE V.
Victorian Death Rates for Tuberculosis per 100,000 of Population in Decades.

Year.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.	
	Males.	Females.	Males.	Females.
1900 ..	134·89	97·63	29·25	29·79
1910 ..	84·78	72·85	20·49	17·13
1920 ..	68·51	52·89	18·13	13·81
1930 ..	54·19	45·17	11·13	8·36
1940 ..	46·54	30·16	3·73	5·20
1950 ..	12·81	5·00	0·81	1·00
1959 ..	3·96	0·93	0·39	0·17

An analysis of the notifications for 1956, 1957, 1958 and 1959 indicates the relative importance of the various sources of the notifications.

Some discussion is required on Table V, relating to the annual death rate from tuberculosis in decades. In bygone times, when the age incidence of those requiring treatment for tuberculosis was lower than today, the sanatoria were full of young people. In cases which were then recorded as tuberculous deaths, tuberculosis was in fact almost invariably the prime cause of death. Today the situation is different. With few exceptions, only the deaths of elderly and aged sufferers are recorded as tuberculous deaths. However, clinical and autopsy experience indicates that tuberculosis is in these mainly a contributing cause, the essential cause being, for example, cardio-vascular disease. Regarded in this light, the decline of tuberculosis as an essential cause of death is all the more remarkable.

TABLE VI.
Percentage of Deaths in Sanatoria.

Year.	Beds Available.	Admissions.	Percentage of Deaths.	Introduction of Chemo-therapeutic Agent.
1930 ..	481	808	27·5	—
1931 ..	481	803	26·8	—
1932 ..	481	885	21·2	—
1934 ..	515	906	24·6	—
1936 ..	515	1003	23·2	—
1937 ..	523	934	22·8	—
1938 ..	527	947	23·5	—
1939 ..	526	976	24·1	—
1940 ..	541	926	23·3	—
1941 ..	613	1022	22·5	—
1942 ..	649	974	24·2	—
1943 ..	699	828	21·1	—
1944 ..	695	756	20·9	—
1946 ..	703	554	16·6	—
1948 ..	855	758	20·0	—
1949 ..	927	856	14·6	—
1950 ..	1086	971	9·4	Streptomycin.
1951 ..	1163	1159	8·1	—
1952 ..	1163	1280	7·2	—
1953 ..	1216	1839	2·8	Isoniazid.
1954 ..	1216	1555	4·3	—
1955 ..	1216	1347	4·0	—
1956 ..	800	1280	6·5	—
1957 ..	751	1065	6·7	—
1959 ..	708	1135	7·3	—

The change in the mortality of tuberculosis is further illustrated by Table VI. This shows the percentage of patients admitted to Victorian sanatoria who died there in any given year. (These figures do not include details pertaining to the beds controlled by the Repatriation Department.)

In 1930, about one-quarter of those admitted died in sanatoria. Only about one in 15 of patients admitted now dies. As the proportion of older patients increases, the percentage of deaths among those admitted to sanatoria may increase again. This is because in so many of the older age group tuberculosis may only be a subsidiary reason for the admissions—the main reason being, for example, congestive heart failure.

Table VII indicates how in 30 years the proportion of people aged over 60 years has increased among new cases notified. To some extent, this cannot be taken at face value. In recent years the importance of the elderly in spreading tuberculosis has become more recognized, and furthermore, wider use of radiology has made the assessment of the elderly chronic bronchitic more accurate.

TABLE VII.

Notifications of Tuberculosis (All Forms).

Age Group. (Years.)	1928. (Total, 1139.)	1958. (Total, 776.)
Under 25 ..	33·2%	20·3%
25 to 44 ..	43·5%	39·1%
44 to 60 ..	18·5%	20·6%
Over 60 ..	4·8%	20·0%

Table VIII shows how in 15 years the number of deaths recorded as tuberculous has fallen. The decrease in deaths has been mainly in the young. In consequence, deaths among those aged over 60 years now form a substantial proportion of such deaths. This is further illustrated by Table IX, which indicates that over the past three years in both sexes about one-quarter of the recorded tuberculous deaths have been the deaths of persons aged 70 years and over. Again, for reasons already stated, the causes of death among the aged may be multiple and may obscure the true situation.

TABLE VIII.

Number of Recorded Tuberculosis Deaths.

Age (Years).	1943. Number of Deaths.	1952. Number of Deaths.	1955. Number of Deaths.	1958. Number of Deaths.
Less than 30 ..	135 (20%)	23 (7%)	9 (4·5%)	7 (5%)
30 to 44 ..	196 (30%)	70 (20%)	31 (14%)	18 (12·5%)
45 to 59 ..	166 (25%)	107 (31%)	85 (38%)	40 (27·5%)
60 and over ..	155 (25%)	144 (42%)	97 (43·5%)	80 (55%)
Total	650 (100%)	344 (100%)	222 (100%)	145 (100%)
Incidence per 100,000 of population	37	15	9	5

Table X indicates the number of males who died in 1957, 1958 and 1959, in whom pulmonary tuberculosis was associated with pulmonary occupational disease.

Few people in Victoria are now recorded as having died from pulmonary tuberculosis associated with occupational disease of the lung. This is in contrast to the situation some years ago, when deaths from silico-tuberculosis among men with a history of exposure in the gold mines were relatively common. Two factors are primarily responsible for this improvement. First, the over-all amount of tuberculosis in the community has receded. Secondly, there is now very little gold-mining carried out in Victoria. This is the industry which in the past in this community has produced most cases of pneumoconiosis associated with tuberculosis. To a much lesser extent, growing awareness among industry in general of the risks of industrial lung disease has also helped. Another factor which has helped is that jobs have been more plentiful during the post-war years, and it has been economically easier for a man to leave a dusty trade than it was during the financial depression.

A further guide to the trends in the incidence of tuberculous infections may be obtained from tuberculin surveys among the populace. Table XI shows the results of such investigations among Victorian school-children in their fourteenth year.

In assessing these figures, it must be borne in mind that it is known that in some parts of the metropolitan area the natural positive reactor rate in this age group may be as high as 10%. In other parts the rate may be below 4%. The proportion of children from the different areas is not the same each year. Furthermore, it is known that among foreign-born children there is a higher rate of natural positive reactors than among the Australian born. Inclusion of suburbs with a large proportion of foreign-born children may also influence results. These reservations notwithstanding, the inference is that the present natural conversion rate among Victorian school-children aged 14 years is 7%. This compares favourably with the situation in other parts of the world.

TABLE IX.

Deaths from All Forms of Tuberculosis.

(Number of Subjects Aged 70 Years and Over in Parentheses.)

Year.	Males.	Females.
1957 ..	106 (24)	39 (10)
1958 ..	106 (32)	39 (5)
1959 ..	122 (35)	31 (10)
Total	334 (91)	109 (25)

TABLE X.

Age Group. (Years.)	Cause of Death.					
	Tuberculosis of Respiratory System with Mention of Occupational Disease of Lung.			Tuberculosis of Respiratory System without Mention of Occupational Disease of Lung.		
	1957.	1958.	1959.	1957.	1958.	1959.
40 to 49	1	—	—			
50 to 59	—	1	1			
60 to 69	3	2	1			
70 to 79	2	1	1			
80 to 89	1	—	—			
Total	7	4	3	90	97	108

The following tabulation illustrates how the numbers in receipt of the tuberculosis allowance have declined. It shows the number of patients receiving tuberculosis allowances each year from July 1, 1950, to December 31, 1959.

1950 (July 1, commencement of scheme)	1840
1951	2039
1952	1582
1953	1535
1954	1428
1955	1302
1956	1121
1957	793
1958	582
1959	494

By means of tuberculosis allowances, the State endeavours to lessen the hardship caused by loss of earnings during a period in sanatorium or during convalescence at home. These allowances, which are paid by the Commonwealth, are subject to a liberal means test, and are paid to sufferers who are infectious and who cooperate fully with the tuberculosis control authorities. The weekly rates of payment at present are as follows: (i) married person, £10 7s. 6d.; (ii) sufferer without dependent wife: (*a*) whilst undergoing approved domiciliary treatment, £6 10s.; (*b*) whilst undergoing free hospital treatment, £4 7s. 6d. There is a payment of 10s. a week for each dependent child in addition to child endowment. For comparison, the present male adult basic wage for a forty-hour week is £13 15s.

On the other hand, the old-age pension for an unmarried male amounts to £4 15s. (about one-third of the basic wage). On this he has to feed, clothe and house himself, unless he is able to work and is fortunate enough to find suitable employment. Under such circumstances he is permitted to earn an additional £3 10s. per week.

TABLE XI.

Children in their Fourteenth Year: Victoria, 1954 to 1958.

Year.	Metropolitan Area.			Rest of State.		
	Number Tested.	Natural Positive Reactors.	Reactor Percentage.	Number Tested.	Natural Positive Reactors.	Reactor Percentage.
1954	4124	312	7·56	1007	59	5·86
1955	6735	519	7·70	1643	107	6·52
1956	1730	106	6·12	4543	354	7·79
1957	6495	489	7·52	2835	146	5·15
1958	5096	322	6·32	4282	253	5·90
Five Years	24,180	1748	7·23	14,320	919	6·42

The tuberculosis allowances are for infectious tuberculosis. In the past they have at times included persons with non-pulmonary disease willing to undergo sanatorium treatment.

Future Trends.

The assessment of future trends in tuberculosis in Victoria is of some importance, because large sums of public money are involved in running an adequate tuberculosis service. Indeed, large sums of money have been spent in establishing three large sanatoria in the Melbourne area. One of these has closed as a tuberculosis sanatorium, and is now being used as a centre for the care of the aged. This illustrates that money so invested is not wholly lost as a result of declining numbers requiring a sanatorium regime.

Some guides to future personnel and financial requirements and number of sanatorium beds needed may be obtained from past happenings and present practice. It appears evident that the case rate is fairly steady, despite the decline in the death rate (see Table I). From this and from Table XII, which is an analysis of the notifications in terms of the stage of pulmonary tuberculosis at which the patient presented, some deductions as to future bed requirements may be made. Table XII has been derived by placing patients in one of three approximate disease categories—namely, minimal, moderate or advanced.

In the male section, each category contains about one-third of the patients. The situation in women is different. A higher proportion present with minimal disease and fewer with advanced pulmonary lesions than in the case of men. The explanation for this difference probably lies in several factors. The women belong to a younger age group and are more health-conscious as a result of public health education. Child-bearing brings them more readily under medical supervision. The constant work associated with children and house-keeping may well cause symptoms to appear earlier than in the case of men on a forty-hour week. Finally, women as a whole are probably more willing to seek medical advice.

In any calculations about bed requirements, the average duration of stay in a sanatorium must be taken into account. This is now 180 days, compared with 396 days in 1949. In general, those with advanced disease are more likely to exceed this time. Furthermore, both locally and overseas the growing policy is to have patients on chemotherapy for twelve months and more after their discharge. Some patients with minimal disease, and patients for whom for domestic reasons a sanatorium regime is impossible, are even treated on an out-patient basis. These factors imply that facilities for out-patient treatment and supervision will probably remain at least on the present level or be extended.

Large-scale out-patient chemotherapy for tuberculosis is complicated by not knowing whether the patient is really taking his tablets or not. Examination of urine indicates that about 70% of those on PAS are following instructions. Those who do not take the tablets regularly are generally the less intelligent individuals, who are indifferent to their obligations to the community. All too often their social circumstances render them likely to pass on their infection.

Among those considered to need sanatorium care, those in the older age groups are becoming numerically more prominent.

In some quarters, the phenomenon of diminished mortality and morbidity rates among the younger groups with a relative increase in these rates among those aged over 60 years is taken to indicate that tuberculin reactors now are breaking down at later ages than formerly. Before this happens, some may die of other complaints. If this concept is correct or only partly correct, it is of some significance in Victoria, because our migrants in the main come from areas where the rates for tuberculin reactors are higher than here. It implies that people are migrating who, although radiologically unaffected on their arrival, may in years to come present with active tuberculosis as a late sequel to a primary tuberculous infection contracted in their country of origin.

The primary infection may have taken place thirty or more years previously. This concept is important, too, in future planning of the needs of a tuberculosis service. It suggests that the case rate will not fall below a certain minimum, and may even rise if the proportion of elderly tuberculin reactors increases.

The current large migrant intake and the likelihood that this will continue favour the continuation of the present policy in regard to B.C.G. vaccination. This policy is to offer such vaccination to all Mantoux-negative children aged 11 years and over, as well as to contacts and to persons exposed to special risks.

Table XIII gives some figures for migrants. Only migrants who landed within the five years preceding 1957, 1958 or 1959 are included. These figures do not necessarily suggest inadequate pre-embarkation screening (although in the case of the Hungarian refugees it certainly was), but rather that adaptation to a new life associated with any employment and housing difficulties has taken its toll.

The figures and comments concerning tuberculosis among migrants are not to be taken as an argument against migration. World events have thrust a policy of controlled large-scale migration upon Australia. Rather the question is whether continuance of the present policy in regard to tuberculosis among prospective migrants is wholly justified. There are, for instance, many thousands of people still living in refugee camps in various parts of Europe who are not accepted for migration because of some physical defect, or because they are too old. Sometimes this barrier to emigration is tuberculosis. Refugee families determined to stay together have been unable to emigrate because of tuberculosis in one member. Are we right to condemn such people to continue life as refugees in countries where they are not wanted, and in which they may be denied the right to work? Can we justify our

TABLE XII.

Year.	Males.				Females.			
	Minimal.	Moderate.	Advanced.	Total.	Minimal.	Moderate.	Advanced.	Total.
1956 ..	160 (30%)	218 (42%)	143 (28%)	521 (100%)	123 (47%)	93 (35%)	48 (18%)	264 (100%)
1957 ..	177 (33%)	208 (39%)	153 (28%)	538 (100%)	157 (58%)	76 (28%)	42 (14%)	275 (100%)
1958 ..	154 (32%)	195 (40%)	131 (28%)	480 (100%)	122 (55%)	59 (27%)	39 (18%)	220 (100%)
1959 ..	151 (30%)	199 (39%)	159 (31%)	509 (100%)	133 (52%)	78 (30%)	45 (18%)	256 (100%)

attitude when we live in a State which is fortunate by world standards and has a well-established tuberculosis service? After all, Mantoux-positive individuals are accepted, and Table XIII suggests that some of these break down. The question is not whether the policy of examining prospective migrants for tuberculosis should be abandoned, but whether we should open the door and let in some who would otherwise be homeless and stateless for the rest of their days. This question is particularly pertinent in Victoria, where there are empty beds in sanatoria and good facilities for successful treatment.[1]

TABLE XIII.

Notifications—Migrants.

Year.	Number Notified.	Percentage of Total Notifications for Tuberculosis.
1957 ..	52	6·4
1958 ..	59	7·4
1959 ..	72	8·3

Mass surveys uncover about one-fifth of the notified cases of tuberculosis (Table IV). This is a clear indication of the importance of these surveys. However, the percentage of radiological abnormalities is decreasing each year, and the impression has been gained that approximately the same section of the population is being radiologically examined each year, and that those people such as the aged who represent the most likely sources of unsuspected tuberculosis do not come forward for examination. The question of compulsory periodical chest X-ray examinations has been raised. The present level of tuberculosis in the community would not justify the costs involved in such a scheme, quite apart from the fact that the population is already sufficiently regimented. A better approach would be to have a chest X-ray examination on applying for the old-age pension or superannuation, prior to marriage, and as part of insurance examinations. Periodic chest X-ray examinations among certain occupational groups, such as teachers and others in close contact with children, would also be advisable.

Whilst the numbers requiring sanatorium treatment are still shrinking, a certain flexibility in regard to sanatorium staffing will need to be maintained. If not, the situation could easily arise at which a disproportionately large staff is employed to look after a group of patients, most of whom, because of recent improvements in treatment, are largely ambulatory.

Finally, in contemplating the future in tuberculosis, it must be borne in mind that since 1945 Victoria has enjoyed prosperity. Large-scale unemployment, such as that which occurred during the depression in Australia or during the recent slump in the United States, might well adversely change the situation.

Summary.

Figures have been presented which throw light on the incidence of tuberculosis in Victoria, a State which has undergone considerable industrial and population expansion in the post-war years. The suggestion is that although the death rate has declined, the rate of new patients requiring treatment each year is approximately stable. However, advances in treatment have diminished the overall cost to the community of this disease.

[1] It is understood that the Commonwealth Government now proposes to admit a limited number of tuberculous refugees.

Acknowledgement.

I wish to thank Dr. D. B. Rosenthal, Director of Tuberculosis in Victoria, for his helpful criticism, and for making available the statistical records of his department.

A POSSIBLE ERROR IN THE CORTICOTROPHIN TEST FOR ADDISON'S DISEASE.

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THE clinical and presumptive diagnosis of Addison's disease is confirmed when it is shown that corticotrophin does not increase adrenocortical secretion, and excluded when the converse applies. In this regard, corticotrophin is most logically administered by intravenous infusion; however, patients have deteriorated after this procedure, either from a reaction to corticotrophin itself or from an inability to excrete the fluid load, which is an accepted feature of the disease. Accordingly, some investigators have preferred to continue cortisone dosage, when it has been started and the diagnosis seems probable, while carrying out the diagnostic test.

The following results are reported to show that, when urinary steroid excretion is estimated by group chemical analysis, it is possible for an error to arise under such circumstances. The error, presumably uncommon, may lead to an exclusion of Addison's disease when in fact it exists.

Methods.

The procedures were identical with those used previously (Foggitt and Steinbeck, 1958, 1959).

Patients Investigated.

A., a housewife, aged 35 years, had a four years' history of progressive pigmentation and asthenia after "pneumonia"; the response to the Mantoux test, previously negative, had become strongly positive after this "pneumonia". At the time of the first investigation she was deeply pigmented, frequently anorexic and nauseated and indifferent to her illness, and had an arterial blood pressure of 100/60 mm. of mercury when recumbent.

B., a housewife, aged 23 years, had a four months' history of increasing pigmentation and freckling, with asthenia progressing to gross muscle weakness, following an "influenzal" illness. At the time of the investigations she was moderately pigmented, with many freckles varying in colour from light-brown to black, had recently recovered from an episode of increased weakness associated with nausea and vomiting, and was agitated about her illness; her arterial blood pressure was 95/60 mm. of mercury when recumbent.

TABLE I.

The Urinary Excretion of Steroids Before and After an Intravenous Infusion of Corticotrophin in Two Patients with Addison's Disease.[1]

Patient.	Date.	Cortisone Dosage. (mg. per 24 Hours.)	Steroid. Group.	Urinary Output on Day. −2	−1	0	+1	+2
A.	April 29.	0	17-KS	5·0	5·3	5·5	—	—
			17-KGS	4·7	6·3	7·5	—	—
	October 10.	50	17-KS	—	7·6	13·6	7·6	6·9
			17-KGS	—	11·7	24·0	24·0	12·2
			17-(OH)CS	—	12·3	21·6	20·2	10·4
			SDHA	—	5·2	12·2	12·5	5·4
B.	November 26.	50	17-KS	—	6·0	9·5	9·2	—
			17-KGS	—	10·1	19·4	10·8	—
			17-(OH)CS	—	11·7	21·1	11·7	—
			SDHA	—	2·9	11·0	3·7	—
	December 9.	0	17-KS	—	4·6	2·5	—	—
			17-KGS	—	1·3	1·6	—	—
			17-(OH)CS	—	3·6	5·2	—	—
			SDHA	—	0	0	—	—
	December 15.	0	17-KS	—	1·9	0·9	2·3	—
			17-KGS	—	1·5	2·1	0·5	—
			17-(OH)CS	—	2·4	1·9	3·0	—
			SDHA	—	0	0	0	—

[1] The date refers to the first 24-hour period on each occasion. Twenty international units of corticotrophin were administered at a constant rate over eight hours on day 0. All steroid figures are expressed in milligrammes per 24 hours; 17-KS=17-ketosteroids; 17-KGS=17-ketogenic steroids; 17-(OH)CS=17-hydroxycorticosteroids; SDHA=steroidal dihydroxyacetones.

In both cases, the diagnosis had been doubted previously because of associated diseases. Also, the personality defects and personal neglect of the first patient had often vitiated a diagnosis of organic illness.

On the days of its administration, cortisone acetate was given to both patients as a 25 mg. tablet, at 6 a.m. and 6 p.m. The corticotrophin infusions were started at 9 to 9.15 a.m. and 20 I.U. of corticotrophin (C.S.L.), known to be potent in normal subjects, were given at a constant rate over eight hours on the occasion of each test.

Results.

The actual results for the presumed diagnostic tests are shown in Table I. Because of circulatory distress, 100 mg. of cortisone had to be given to patient A. on the day after the first test, which showed absence of functioning adrenocortical tissue to that time. In order to obtain more observations after corticotrophin, the test was repeated some six months later in this case, but, because of previous circulatory embarrassment, cortisone replacement was continued throughout the test period. The results of this test, if those of the earlier one were not available, could be interpreted as indicating an adrenocortical response to corticotrophin. Likewise, in the case of B., the results of the initial test, during which cortisone dosage was continued, could be so interpreted. However, on two subsequent occasions in this case there was no response to corticotrophin when cortisone was withheld.

Discussion.

That the present results are not invariable can be seen by reference to Table II, which shows the results of similar investigations on four subjects, three with spontaneous Addison's disease and one after a total adrenalectomy. The importance of the possibility of similar results is that replacement therapy could be withheld, with unfortunate results, in such cases because there appeared to be a significant increase in the urinary excretion of steroids after corticotrophin.

The explanation of the results is not immediately obvious. Extra-adrenal effects of corticotrophin have been suggested (Samuels, 1959); but it is difficult to accept that this is the only possibility. For instance, under hospital conditions (see Foggitt and Steinbeck, 1958) 13% to 38%, 14% to 39%, and 10% to 25% of the administered cortisone, given as a constant daily dose, has been recovered as 17-ketogenic steroids, 17-hydroxycorticosteroids and steroidal dihydroxyacetones, respectively, in different 24-hour collections of urine from patient A. From patient B, the urinary recoveries of the administered cortisone have been 17% to 36%, 9% to 39%, and 6% to 22% as 17-ketogenic steroids, 17-hydroxycorticosteroids and steroidal dihydroxyacetones, respectively. The urinary recoveries were calculated by making allowance for pre-treatment excretions and are not dissimilar from those of other patients with Addison's disease,

TABLE II.

The Urinary Excretion of Steroids Before and After an Intravenous Infusion of Corticotrophin in Three Cases of Addison's Disease.[1]

Patient.	Cortisone Dosage. (mg. per 24 Hours.)	Type of Addison's Disease.	Steroid. Group.	Urinary Output on Day. −1	0	+1	+2
C.	75	Tuberculous.	17-KS	6·8	11·5	10·9	6·8
			17-KGS	26·7	28·9	23·0	25·5
			17-(OH)CS	27·7	34·4	26·5	26·5
			SDHA	13·3	13·1	18·4	16·2
D.	25	Post-adrenalectomy.	17-KS	1·8	1·5	—	—
			17-KGS	7·8	10·5	—	—
E.	37·5	Spontaneous.	17-KS	7·4	6·4	4·8	—
			17-KGS	17·7	16·0	15·3	—
			17-(OH)CS	17·8	15·6	15·9	—
			SDHA	6·9	8·4	6·5	—
F.	25	Tuberculous.	17-(OH)CS	12·9	13·4	10·3	—

[1] For explanation, refer to Table I.

secondary hypocorticism or after adrenalectomy. The apparently increased urinary excretion of steroids after corticotrophin was thus no greater than that observed at other times in these patients when they were receiving cortisone but not corticotrophin. In patient A, some two days before the second test, the urinary recoveries of cortisone as 17-ketosteroids, 17-ketogenic steroids, 17-hydroxycorticosteroids and steroidal dihydroxyacetones were in fact 30%, 34%, 36% and 24%, respectively. Hence it seems possible that a peak excretion of the administered cortisone and its metabolites could have simply coincided with the corticotrophin infusion in these patients without any causal significance. Thus, because recovery seems variable and as there is not an increased urinary excretion of steroids after administration of corticotrophin in partial Addison's disease (Foggitt and Steinbeck, 1959) or in all patients on cortisone replacement, it seems unnecessary to postulate a process beyond that already causing fluctuation in the urinary recovery of the administered cortisone in these two patients.

The possibility of the misleading result found in these tests of adrenocortical function can be circumvented by replacing the cortisone dosage with 0·5 to 1·0 mg. of 9-alpha-fluorocortisol per day (Hudson, 1959; Steinbeck, 1959). This compound does not contribute exogenous steroids to urinary steroid estimations (Goldfien *et alii*, 1955) and does not interfere with the response of the normal adrenal cortex to a corticotrophin infusion (unpublished results).

Summary.

Two patients with Addison's disease receiving cortisone showed an increased urinary excretion of steroids after corticotrophin; a causal significance does not seem likely.

The practical implications of this unusual result are discussed.

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RH ANTIBODIES OF NATURAL, IDIOPATHIC OR GENETICALLY CONTROLLED OCCURRENCE.

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RH ANTIBODIES in human serum are almost invariably the result of iso-immunization by human red cells. Such antibodies are therefore "immune antibodies", and are usually caused by Rh-incompatible transfusions or pregnancies. However, some cases have been reported in which the presence of Rh antibodies could not be traced to sensitization with Rh-positive blood. The first of these was described by Diamond (1942). Wiener (1949) added two more "instances of natural sensitivity to the rhesus factor", Dahr and Knüppel (1951) found Rh antibodies in the blood of an Rh-negative man, aged 40 years, before his first transfusion, and Grove-Rasmussen and Levine (1954) reported the occurrence of anti-D(Rh$_o$) and anti-E(rh″) of unexplained origin. In 1947, we found anti-D(Rh$_o$) incomplete antibodies with a titre of 32 in the serum of a young male Army trainee who apparently had never received treatment involving the use of blood or blood products. "Naturally-occurring" anti-E(rh″) antibodies appear to be the most commonly found. There have been at least 14 examples of anti-E(rh″) reported, one each by Race and Sanger (1954), Huestis and Bates (1958) and Stratton and Renton (1958), two by Grove-Rasmussen and Levine (*loco citato*), and nine by Dunsford (quoted as a personal communication by Mollison, 1956). Two instances of anti-C^w(rh^w) have been described, one by Chown and Lewis (1954) and one by Wiener (mentioned as a personal communication by Race and Sanger, 1958). Until 1958 no example of naturally occurring anti-C(rh′) had been recorded. However, at the eleventh annual meeting of the American Association of Blood Banks, Greenwalt (1959) reported having found anti-D, anti-C and anti-E in individuals with no known previous exposure to the antigen. The antibodies were detectable only or best in the cysteine-activated papain system described by LÖw.

The present paper reports the finding of anti-C^w(rh^w) and anti-E(rh″) in one individual without any known antigenic stimulus, and therefore this example of polyvalent antibodies may be added to the series of "natural" or "idiopathic" Rh antibodies already described.

Report of a Case.

Mrs. H., aged 22 years, was pregnant for the second time. Her first pregnancy had been uneventful, and in 1958 she was delivered of a healthy Rh-negative child. When tested at the third month of her second pregnancy Mrs. H.'s blood was found to be Group O, Rh-negative. Her serum contained a strong anti-A hæmolysin and in addition gave unexpected agglutination with certain Rh-positive papain-treated cells. Identical results were obtained in subsequent tests carried out monthly until the delivery of a healthy child whose blood was Group A, Rh-negative, and again ten days after delivery. Mrs. H. had never received blood and could not remember ever having had injections of any description. The only illnesses she would admit to were colds. There were no clinical symptoms of hæmolytic anæmia.

Serological Data.

The result of the Coombs test on Mrs. H.'s Group O, Rh-negative cells was negative. The atypical antibodies in her serum reacted exclusively with those Rh-positive cells which carried the E(rh″) and C^w(rh^w) agglutinogens. The antibodies were therefore classified as anti-E(rh″) and anti-C^w(rh^w). The anti-E(rh″) had a titre of eight against papain-treated cells, gave only trace reactions by the indirect Coombs method, and did not agglutinate appropriate cells suspended in saline at 37° C., room temperature or 10° C. The anti-C^w(rh^w) was a saline-agglutinating antibody with a titre of four at room temperature and at 37° C. No higher titration figures could be obtained by performing an indirect Coombs test on further serum dilutions. The anti-C^w(rh^w) titre estimated with papain-treated cells was eight, and the agglutination was coarser and more rapid than that obtained with untreated cells. The A hæmolysin persisted throughout pregnancy. The complete and incomplete anti-A titres remained unaltered at a level of 128 and 32 respectively, and had not risen ten days after delivery.

Mr. H's blood was Group A, subgroup A_1, Rh-negative. His red cells did not absorb the Rh antibodies from Mrs. H.'s inactivated and neutralized serum, nor could they be subsequently eluted from them.

Baby H's blood was Group A, Rh-negative, and the result of the direct Coombs test on the cord cells was negative. The cord serum contained anti-E(rh″) and anti-C^w(rh^w) identical in titre and mode of reaction with those found in the maternal serum.

Discussion.

A review of the literature on Rh antibodies not produced by Rh-incompatible pregnancies or by the administration of Rh-incompatible blood illustrates the change in our concept of "naturally-occurring" antibodies. It is known

that substances unrelated to human tissues and body fluids can act as blood-group antigens, and can lead to the production of antibodies specific for an individual blood-group system. Irregular antibodies, even in the absence of obvious iso-immunizations, are therefore not necessarily natural—that is, part of the individual's normal blood-group serology—but may be an immune response to some undisclosed heterogenetic antigen of blood-group-like structure. In 1949, Wiener reported his cases as "instances of natural sensitivity to the rhesus factor". In 1954, Grove-Rasmussen and Levine, when discussing the origin of their atypical antibodies, wrote:

> An alternative explanation for which there is as yet no evidence, so far as the factors D and E are concerned, is a heterogenetic relationship to one of the antigens in the vaccines administered.

Chown and Lewis stated that "the antibody might have developed in response to 'viral stimulation', and preferred to name their anti-C^{w} "idiopathic" instead of "naturally occurring". Diamond mentioned the possibility that the nephritic state of his patient might have had some bearing on the formation of the antibody, and it may not be coincidence that the patient in Dahr's report also showed symptoms of kidney damage.

In Mrs. H.'s case, no history of isogenetic or heterogenetic sensitization could be elicited. She could not have been immunized to the Rh antigens E and C^{w} by fœtal cells, as she, her husband and her two children were all Rh-negative, and she could not remember having received any injections or having suffered any illnesses. It is, of course, possible that the "colds" from which she suffered were of viral origin, but "colds" as a source of Rh immunization hardly seem likely. Of the three irregular antibodies present in Mrs. H.'s serum, the anti-A hæmolysin is doubtless an immune antibody. As its titre did not rise during pregnancy and after delivery, it may have been produced by antigens other than those provided by the fœtus.

The anti-E antibody present has the characterisics of an incomplete warm antibody, usually associated with immunization; but although it agglutinated papain-treated cells moderately well, it barely sensitized the same cells when they were untreated. Possibly the enzyme method is more sensitive than the indirect Coombs technique. However, it may also indicate a variation in the serological behaviour pattern of this antibody. Heistö (1955) and Vogt, Krystad, Heistö and Myhre (1958) reported two similar observations.

The anti-C^{w} antibody in Mrs. H's serum was a saline agglutinin, acting on appropriate cells equally well at room temperature and at 37° C. Its titre range was slightly increased and its avidity greatly enhanced by the use of enzyme-treated cells, and thus it gave the reactions of possibly a mixture of complete and incomplete antibodies. In view of Wiener's (1951) statement that "all natural antibodies are the result of inapparent immunization" and his concept (Wiener, 1952) that the complete type of antibody is an earlier manifestation of sensitization than the incomplete one, it may be that Mrs. H. reacted to an E or E-like antigen at an earlier stage than she did to stimulation with C^{w} or C^{w}-like substances.

However, it is also possible that the two Rh antibodies in Mrs. H.'s blood were not produced by immunization, but are an integral part of her own blood-group pattern. Some of the so-called irregular antibodies of unknown origin may be as inevitable as the agglutinins of the A-B-O system, and appear irregular only because we do not know their proper place in the total blood-group structure. The anti-Tj^{a} antibody was originally described by Levine, Bobbitt, Waller and Kuhmichel (1951) as an immune antibody, until Sanger (1955) fitted it into the P family, and showed that it was a regular normal serum property of all P-negative (Tj(a–)) people. The reassessment of this one particular antibody led to a complete reorganization of what was then an apparently fully understood blood-group system.

Even if the antibodies in Mrs. H.'s blood are not an inevitable expression of her blood-type composition, they could have been produced by her own individual serogenetic mechanism with or without external stimulus. We know of no data on the heredity of irregular antibodies, but they have been reported in very young children; Friedenreich (1937) found an anti-M in an ON infant, aged two months, whose anti-A and anti-B agglutinins were not yet demonstrable. Such findings suggest that the presence of rare primary antibodies in human serum may be genetically controlled, particularly in the light of the recent rapid advances in our knowledge of gene-controlled plasma proteins.

Mrs. H.'s blood has been investigated only during a period of six months, and it is therefore impossible to say whether the two antibodies showed the development pattern of immune antibodies—that is, quick rise and progressive drop in titre after cessation of the antigenic stimulation—or the gradual development in early childhood, long-lasting maximal level during adult life and slow decline during old age, which is characteristic of the so-called naturally-occurring anti-A and anti-B agglutinins. The anti-C^{w} antibody described by Chown and Lewis (*loco citato*) was still present three years after detection, but it was somewhat weaker, while the naturally-occurring anti-Gr(Graydon) antibody found in 1943 and reported by Graydon (1946) proved to be almost identical in avidity and titre when tested by Simmons, Albrey and McCulloch (1959), some 15 years later.

The present writers have encountered a total of five examples of agglutinating anti-C^{w}(rh^{w}), and all reacted almost equally well at 22° C. and at 37° C. Of the five it can be said that two were of natural or perhaps genetically controlled origin, one was clearly associated with fœtal immunization, and in the other two no decision as to origin could be reached because of insufficient data. Recently a number of examples of anti-E(rh″) plus anti-C^{w}(rh^{w}) have been found here, and in nearly all of them there was no history of immunization. The association of the anti-E(rh″) and the anti-C^{w}(rh^{w}) has been so frequent that it can hardly be entirely due to chance. Data on these cases are being collected for subsequent analysis.

Summary.

Anti-E(rh″) and anti-C^{w}(rh^{w}) antibodies of the Rh system were discovered in the serum of an Rh-negative woman whose husband and two children were also Rh-negative.

No obvious antigenic stimulus could be found to explain the presence of the two antibodies in the patient's serum.

The literature on "naturally-occurring" antibodies of the Rh system is reviewed, and the nature of the two antibodies is discussed.

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THE CASE FOR ABANDONING THE TRENDELENBURG POSITION IN PELVIC SURGERY.

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FRIEDRICH TRENDELENBURG was born on May 24, 1844, in Berlin. In 1862 he went to Scotland, where he stayed for two years studying anatomy, embryology and physics. He then returned to his home town and entered the University of Berlin, where he received a degree in medicine in 1866. In 1882, at the age of 38, he was made Ordinarius of Surgery, University of Bonn. Eight years later he first described the Trendelenburg position, although a report had been written by his pupil, Dr. Willy Myer, in 1885. A translation from the German of his original description published in 1890 is given:

> If one places the body of a patient on the operating table in such a way that the symphysis pubis forms the highest point of the trunk, and the long axis of the trunk forms an angle of at least 45 degrees with the horizontal, then the various organs, especially the liver, spleen, and mesentery, fall into the concavity of the diaphragm by virtue of their weight. The intestine follows and falls out of the true pelvis as far as the atmospheric pressure will permit. In the case of thin individuals and relaxed recti muscles in deep narcosis, the anterior wall of the abdomen in the hypogastric region in this way exerts a truly sucking effect on the pelvic cavity, so that in the latter region a deep space is formed.

The Trendelenburg position was introduced for one reason only—to allow the intestines to fall out of the pelvis and so allow the surgeon access to the pelvic organs. It carried with it some morbidity and almost certainly some mortality. It was undoubtedly a great step forward in pelvic surgery and was certainly necessary prior to the introduction of relaxant drugs into anæsthesia, as with each respiration the diaphragm descended, pushing the intestines into the pelvis and obscuring the operating field.

Now with modern anæsthesia, using relaxant drugs, we can achieve the same operative exposure with the horizontal position, without subjecting the patient to the additional hazards of the Trendelenburg position.

The complications can be briefly listed as follows: (i) respiratory complications, (ii) cardio-vascular complications, (iii) calf vein thrombosis, (iv) nerve injuries, (v) late shock.

Respiratory Effects.

In the "head low" position the full weight of the abdominal viscera falls on the diaphragm, which moves inadequately, or not at all, if relaxants are used. This results in poor aeration of the lower lobes of the lungs and predisposes to post-operative lobar collapse and pneumonia.

Cardio-Vascular Complications.

The dynamics of the circulation are upset in this position, often maintained for one to two hours and occasionally even longer. Venous return from the head and neck and upper limbs is seriously interfered with. This can easily be observed in these patients by noting the full veins and the congestion of the skin and eyes, often accompanied by conjunctival œdema. One can easily imagine that the same congestion is occurring within the cranial cavity. On the patient's being returned to the horizontal position after a lengthy period there is a sudden reversal of the circulation to normal, which may temporarily upset the venous return to the right auricle. In addition, the weight of viscera pressing on a relaxed diaphragm tends to cause a shift in the cardiac axis, which again may lead to cardiac embarrassment.

Calf Vein Thrombosis.

If the patient is correctly positioned so that the knee joint is over the break in the table, there should be no pressure on the calves from the bottom tilted leaf of the operating table. This ideal is not always obtained, and even if all is correct when the operation commences, there is frequently some sliding of the patient down the incline, owing either to the shoulder rests being insecure or to the patient's shoulders settling more firmly into these rests. It requires only one inch of movement to cause pressure on the calf veins, with a resultant stasis which predisposes to later thrombosis and embolism.

Nerve Injuries.

Nerve pareses in the upper limb more commonly follow the use of the Trendelenburg position than any other operative position. These are caused by pressure on the brachial plexus and its branches by incorrectly placed and secured shoulder rests. This problem has been overcome by the introduction of the friction mattress, which, however, is not in universal use in this country.

Late Shock.

The ætiology of late shock is obscure. It is, in my opinion, due to the train of cardio-respiratory dysfunction set up during operation, aggravated by the return of the patient to the horizontal position, and further aggravated by the movement of the patient from the operating table to the trolly and from the trolly to the bed.

Another Complication.

Another complication one must mention is the presence in the operating theatre of an irritated anæsthetist who dislikes the position, because of the added anæsthetic difficulties involved.

Discussion.

I became interested in the positioning of patients for pelvic operation after encountering a series who became shocked after their return to bed. None of these had appreciable blood loss at operation, and all left the theatre in apparently satisfactory condition, with normal pulse rates, blood pressure, respiration and colour. After periods ranging from 15 minutes to two hours they became extremely shocked and all required active resuscitation. All recovered within a few hours of commencing treatment, and their later post-operative course was uneventful.

This series of patients varied in age from 25 to 70 years, and came under the classification of both good and poor operative risks. All patients as a routine procedure had their hæmoglobin value estimated prior to operation and were given transfusions if the hæmoglobin value was 10 grammes per 100 ml. or less. These patients, although they represented only a small percentage of the number

operated upon, caused considerable anxiety and were discussed in detail with the anæsthetists concerned.

Initially it was thought by me that the cause was incomplete reversal of the relaxant used, with gradual onset of carbon-dioxide retention due to insufficient respiratory exchange. This was strenuously denied by the anæsthetists, who, however, agreed to use a different technique. In addition, particular care was taken to raise the patient slowly, and in stages, from the Trendelenburg position to the horizontal during the suturing of the wound. In spite of these changes in technique, an occasional case of post-operative collapse still occurred, so I then decided to operate on all patients in the horizontal position.

During the past two years 100 consecutive pelvic operations have been carried out with the patient lying flat. The cases have been unselected in all respects. From the operator's viewpoint, I found that accessibility and visibility of the pelvic organs were equally as good as in the Trendelenburg position. Packing off the intestines presented no problem, and two large abdominal packs proved adequate in all cases, provided the anæsthetist maintained full muscle relaxation during the whole time the abdominal cavity was open.

During this two-year period there has not been one case of post-operative shock (or other complications mentioned earlier). I have worked with many different anæsthetists, and I have allowed each to use his own particular technique, provided that full relaxation was maintained. They have all been enthusiastic about the horizontal position, as in no case have they had the concern so often associated with the Trendelenburg position, particularly in obese, hypertensive or emphysematous subjects.

The nursing staff have been enthusiastic because the patients cause them far less post-operative concern, and I, as the surgeon, am enthusiastic, as I no longer operate with most of my weight on the right leg, with my head tilted to the right to see into the pelvis.

This article does not illustrate Trendelenburg's views as being incorrect, but stresses the fact that, with the continuous advance in new drugs and new techniques, a method that was highly successful eighty years ago, even fifteen years ago, could today be obsolete.

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GROUP PSYCHOTHERAPY IN THE REHABILITATION OF THE PHYSICALLY DISABLED.[1]

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To understand the possible role of group psychotherapy in a rehabilitation programme dealing mainly with the physically disabled, it is necessary briefly to review the problems which are specific or rather more in emphasis in the case of the physically disabled.

There are difficulties that arise in the patient's reaction to his reduced motor activity and changed appearance, with consequent occupational and social complications; but, apart from these important matters, there are problems which may more specifically interfere with the rehabilitation effort. They may be briefly stated as follows: lack of incentive consequent on apathy or depression; unconscious negativism, in which the patient pulls against his rehabilitation programme; and the mental mechanism of denial, which varies from the flat denial of any disability at all in some brain-damaged patients, to the more common neurotic denial of those who admit the disability verbally, but show, by the irrationality of their day dreams, hopes and plans for the future, that they ignore it emotionally. All these factors when present tend to result in unsatisfactory physical progress or relapse on discharge, loss of time and enterprise put into the work, and financial loss.

For those patients who are not too severely emotionally disturbed, the rehabilitation programme itself acts as a psychotherapeutic measure. That is one reason why those who make rehabilitation their life's work should be well adjusted beyond the average, tolerant, sympathetic and non-punitive in their attitude towards the patients. The atmosphere of encouragement in a rehabilitation organization often has a remarkably good effect on the patients, especially on those who have been battling against feelings of hopelessness due to their not knowing the possibilities of readjustment, or their hitherto unknown potentialities for new occupations and activities. The "new hope" aids the patient and his doctor in the planning of goals that are realistic. Even those patients are helped whose pre-disability personality showed great activity used as a defence against anxiety provoked by passivity. These latter patients are among the most grossly disturbed by a sudden severe physical disability that enforces inactivity and a passive existence. However, their defensive need for activity can sometimes be turned to good advantage in the rehabilitation programme, so that they make the most of their possibilities and what they have left to gain greater motility.

The psychiatrist, psychologist and psychotherapist, working in a physical rehabilitation programme, are faced with difficulties a little different from those of ordinary practice. For instance, in contrast with private practice, patients in a physical rehabilitation institution seldom voluntarily seek psychological help in their difficulties. If it is suggested that it might be of help to them to consult the psychiatrist, their reaction is apt to be: "I have a physical disability, and surely you are not suggesting I am 'nuts' as well." In the popular mind, psychiatry is still largely equated with the treatment of insanity. All too readily the disability comes to be used as a defence against awareness of emotional problems.

The foregoing difficulties are by no means unique in the practice of medicine. Most new methods of treatment have had to win their place in scientific and later in popular circles. Psychotherapy, and particularly group psychotherapy, is in its infancy as a scientific discipline, and has yet to prove its worth outside the still very small section of the community that has been professionally concerned or has benefited from actual treatment. It is ultimately a problem of the medical education of the public. Just as vaccination was once new, strange and vigorously opposed, but is now accepted as a measure of public health, so eventually psychotherapy, individual or in groups, will be accepted more readily as a measure of mental hygiene, and not necessarily regarded as an implication of incipient or overt insanity. These observations are obvious to a professional body like our own, but are still worth emphasizing in a wider area amongst those with whom we work and practise.

At the present time rehabilitation centres use group methods in several aspects of their work. For instance, patients with aphasia following cerebral vascular accidents are treated in groups by the speech therapist; retraining in ambulation and various physical exercises are often conducted in groups; the regular staff conferences on the patient's progress are group discussions; and vocational counselling is sometimes a group activity. But these activities are quite distinct from group psychotherapy as such. This term should be reserved for those systematic

[1] Read at a meeting of the American Group Psychotherapy Association in San Francisco, California, U.S.A., on April 3, 1959.

[2] Jessie Howard Gregg Fellow, Department of Physical Medicine and Rehabilitation, New York University College of Medicine, 1958.

methods which have as their aim a change for the better in a patient's attitudes, neurotic conflicts and emotionally determined symptoms.

Of the several types of group psychotherapy that could be used in the setting we are discussing, firstly analytical and secondly non-directive methods suggest themselves as worthy of some consideration. And so we will pass on to a discussion of the relative merits of these approaches, and some of the special difficulties that may be encountered.

If the technique is to be truly analytical, then it calls for candour on the part of each patient in respect to every aspect of his life. All sorts of feelings towards his fellow members and patients, often difficult to verbalize, will have to be worked through. The group therapist has the task of constantly dealing with resistances, watching the development of the transference neurosis and analysing transference manifestations directed to other patients, staff members and himself—and all this in a setting in which patients, staff members and therapists are in fairly close social contact outside the therapeutic group situation.

In a rehabilitation setting the analytical approach comes more especially to be concerned with the following: the unmasking of the patient's often hidden depression and its working through; his aggressive use of his enforced dependence; his fear of being left alone and helpless and its inhibiting effect on his progress; his resentment towards his doctors and medical science for lacking the omnipotence which is expected; his fear of the attitude of others towards his disability, strange movements or disfigurement; his sexual and general marital problems; his jealousy and envy of the non-disabled; his attitude towards other disabled; the relationship of his past experiences, memories and fantasies to his present emotional state and attitudes; the relationship of his feelings of guilt from the past to his getting into a disabled state and unconsciously wanting to remain that way.

Thus we see that in those patients whose personality peculiarities result in their making unsatisfactory progress in their rehabilitation, the problems are deep, intimate and complex. In some cases analysis is the only approach likely to produce a change for the better.

The difficulties in the way of analytical group therapy arise from the fact that the analytical situation cannot adequately be kept free from the concomitant social interaction, which readily facilitates acting out instead of analysis, and the breaking of confidences outside the therapy group. Another problem is the usually relatively short stay of patients in a rehabilitation centre. Analytical group therapy is a long-term method owing to its nature, and in a matter of a few weeks or months little can be done to reach the deeper sources of personality difficulties. However, when in-patients are transferred to the out-patient service, the above-mentioned difficulties in the way of analytical treatment are considerably mitigated, and for that small proportion of patients for whom analysis is indicated, analytical group psychotherapy could be made available.

As the modern concept of rehabilitation is a total one, involving not only physical improvement, but also mental hygiene and social and occupational adjustments, it is best that any organized psychotherapy be carried out within the general rehabilitation set-up; thus due weight can be given at any time to both physical and psychological problems, and good teamwork is preserved in the patient's interest.

A more practicable type of psychotherapy for in-patients would be non-directive group discussions; these, though superficial, can nevertheless be helpful to less severely disturbed patients. They foster abreaction and the ventilating of psychological problems that may otherwise be denied either wholly or in part. At the same time, the patient can make his own pace and thus avoid too great pressure, which may provoke more anxiety than he can tolerate.

The non-directive approach has certain advantages, in that it can be fairly well structured from the therapist's point of view, and at the same time need not stultify the emotional expression of the patients upon which the therapy depends; this is one of the dangers inherent in any structuring of a psychological situation. It can thus readily be taught, and provides a scientific alternative to those methods of psychotherapy which seem to have little or no rules of procedure, and which seem to encourage, rather too much, an unsystematized intuitive approach on the part of the therapist, which leads to his not being fully aware of what he is doing and why he is doing it.

It is not possible in the space of this short paper to give a detailed description of the method with clinical examples, but the general principles can be set out.

The main object is to encourage the patients in the group to talk freely about themselves and their reactions in an emotionally meaningful way. Idle chatter about trivialities will be pointed out as avoiding important matters.

Prolonged silences in one or several group members should be dealt with carefully. It can be assumed that, though they are silent, much is going on in their thoughts and fantasies, both unconscious and conscious. If the patient continues to come regularly, it shows that he is getting something out of it; and at an appropriate time, when the therapist thinks the patient can stand attention being brought to bear on him, he can tactfully point out his reluctance to contribute to the group discussions. This can even better be accomplished when there are several patients who show the same resistance of silence. They do not then feel so individually attacked, and are not so likely to take fright and leave the group.

Thus we can say that it is necessary from time to time to point out various resistances at least in a general way.

In any regular psychological situation, whether social or psychotherapeutic, transference phenomena will begin to show—and in group psychotherapy of any variety this means that there will be transference manifestations between patient and patient, and patient and therapist. However, in the non-directive approach, transference phenomena are best not analysed, because of the intention to avoid a strictly analytical situation that cannot adequately be worked through because of the circumstances already mentioned and the limitations on the time available.

In the problem of overcoming prejudice and resistance to any sort of psychotherapy, particularly amongst the physically disabled, owing to its link with psychiatry and the implication of incipient insanity, it is helpful to have group discussion sessions as part of the organized rehabilitation programme. If group discussion is accepted by the doctor in a matter of fact way, just as is the case with periods of ambulation and physical therapy which he prescribes, it eventually becomes more acceptable to those patients who tend to hide an emotional or personality problem beneath a more tangible physical disability.

Reports of Cases.

A CASE OF "MUNCHAUSEN'S SYNDROME" WITH AN UNUSUAL PRESENTING SYMPTOM.

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Baron Karl Friedrich von Munchausen was famed for the extravagant stories of his improbable adventures. These achieved notoriety after they were published in 1785, with some exaggeration, by one Raspe.

In 1951, Dr. Richard Asher suggested that a common syndrome found in medical practice be dedicated to Baron von Munchausen. The patient showing the syndrome is admitted to hospital with an apparent acute illness sup-

ported by a plausible and dramatic history. Usually the story is largely made up of falsehoods. The patient is found to have attended and deceived an outstanding number of other hospitals, and usually to have discharged himself against advice and after quarrelling violently with both doctors and nurses. A large number of abdominal scars is particularly characteristic of the condition.

There has been little mention of the patients' mental assessment in reported cases. Frankel (1951) describes them as severe psychopaths and their romancing as pseudologia phantastica.

The case to be described is that of a young woman whose predilection for following in the Baron's footsteps is quite marked, and well deserves to be included under the title "Munchausen's syndrome".

Clinical Record.

A woman, aged 27 years, presented at the Royal Melbourne Hospital on three separate occasions during 1959.

TABLE I.

Summary of Admissions, 1947 to 1959.

Date.	Hospital.[1]	Alias.	Admission Diagnosis.
1947: May ..	R.M.H.	——	Acute appendicitis (normal appendix removed).
1951: August ..	P.H.H.	Whelan.	Renal colic (? hysteria).
1951–1952	R.A.H.	Whelan.	Collapse; self-induced haemoptysis.
	Enfield.	Whelan.	Hysterical psychopathy (laparotomy).
1952: August ..	A.H.	Whelan.	Pyelitis.
November	P.H.H.	——	Appendicitis (no operation).
October ..	St.V.H.	——	Appendicitis (no operation).
1953: April ..	A.H.	Whelan.	Salpingitis (? hysteria).
1954: September	R.M.H.	Wheatland.	"Appendicitis" (laparotomy, no abnormality detected).
1955: March ..	Eye and Ear.	——	Mastoiditis.
April ..	A.H.	——	Mastoiditis.
July ..	P.H.H.	——	Loss of memory.
1956: July ..	P.H.H.	——	Loss of memory.
1957: May ..	R.M.H.	——	Mastoiditis.
1959: January ..	R.M.H.	Corrine.	Meningitis.
March ..	R.M.H.	Corinne.	Meningitis.
July ..	R.M.H.	——	Meningitis.

[1] R.M.H., Royal Melbourne Hospital; A.H., Alfred Hospital, Melbourne; P.H.H., Prince Henry's Hospital, Melbourne; St.V.H., St. Vincent's Hospital, Melbourne; Eye and Ear, Eye and Ear Hospital, Melbourne; R.A.H., Royal Adelaide Hospital, Adelaide; Enfield, Enfield Receiving House, Adelaide.

On each occasion she gave a disjointed history suggestive of meningitis, the story improving with each successive admission. She used a pseudonym on the first two admissions, but her true name on the third. Each time she gave a past history of rheumatic fever, meningitis, and a head injury said to have occurred some three months before the first admission. This was stated to be the result of a motor accident in which her husband was killed. She required bilateral occipital burr holes, and later a stillborn infant was delivered by Cæsarean section. This, she said, occurred at Brisbane General Hospital, but later she said that it was at Royal Prince Alfred Hospital, Sydney.

On examination, the patient was seen to be a short, stout, fair-complexioned young woman, slow of speech, with a superficially naïve attitude belied by her later behaviour. She had on all occasions a high temperature, despite careful observation (up to 40·6° C.), but a consistently slow pulse rate, mild neck stiffness and some weakness of her left hand and of the left lower part of her face. She had four abdominal scars, and the hymen was intact. On the first two occasions, lumbar puncture was performed and the cerebro-spinal fluid was found to be completely normal. All other investigations, including X-ray examination of the skull, gave normal results, except for the presence of bilateral occipital burr holes. She left the hospital at her own risk on the first two admissions. During her third admission to hospital she was recognized by the medical registrar, and no further investigations were made. Within four hours of recognition she had absconded, but she was returned by the police and transferred to the psychiatric ward. At this stage her true name was discovered, and a very long record of general and psychiatric hospital admissions was uncovered.

The girl had come from a background of divorced parents, and had always been intelligent and alert, but untrustworthy. She had been expelled from a Melbourne private school after refusing to leave when asked, and later dismissed from her nursing training because of petty thieving. After this, she worked as a stenographer, and apart from occasional lapses, engaged in steady and apparently satisfactory employment. Since 1947 she had had numerous hospital admissions, as indicated in Table I, some of them occurring during trial leaves from Sunbury Mental Hospital, where she was intermittently a patient from 1952 to 1957. On psychiatric assessment she was diagnosed as being grossly hysterical, perhaps a psychopathic personality, and she was known to have been addicted to morphine at one stage.

Comment.

This case is published for several reasons as follows.

1. The patient illustrates Munchausen's syndrome presenting with signs and symptoms of meningitis.

2. It is desired to forewarn any hospitals which as yet have not been visited by this young woman.

3. During the last two years, she had bilateral occipital burr holes made, perhaps for a head injury. All the hospitals so far approached have no record of her. It would be very interesting to know the circumstances of this procedure.

Acknowledgement.

My thanks are due to Professor R. R. H. Lovell, under whose care the patient was admitted to hospital, for permission to publish this history.

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HYPOGLYCÆMIC EFFECT OF CHLORPROPAMIDE.

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ON January 3, 1960, at 3 a.m., a man, aged 57 years, was admitted to The Royal Newcastle Hospital in a coma. A note from his local practitioner stated that he was a diabetic, who had been comatose for several hours. The patient's wife and son stated that he had never had any insulin. During the previous day he had complained of headache, become confused and gradually lost consciousness.

The patient appeared to be about to die. He was rigid, trembling, sweating, pale, cyanosed and deeply unconscious, with a slow pulse and stertorous respirations. There was a conjugate deviation of the eyes to the right, and the right plantar response was extensor.

A provisional diagnosis of cerebral vascular accident was made, but 25% glucose solution was given intravenously, to rule out the remote possibility that he had been given insulin. The patient responded immediately. He confirmed that he had never had insulin, but admitted

that, whilst under the influence of alcohol the previous day, he might have taken an overdose of "Diabinese" tablets.

Nine hours later he again became confused, and responded promptly to glucose given by mouth. Again after 18 hours he was confused and sweating, but responded to glucose given orally. After an uneventful period of four days he was discharged from hospital.

Conclusion.

Chlorpropamide ("Diabinese") can cause (i) hypoglycæmia threatening life, (ii) hypoglycæmia for more than 24 hours after its administration.

A CASE OF THALLIUM POISONING DURING PREGNANCY.

By WILGA JOHNSON, M.B., B.S.,
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MANY cases of thallotoxicosis have been described in recent years, but I have been able to find only one account of the occurrence of thallium poisoning during pregnancy. This was published in 1954 by English, who discussed the possible effects of thallium on the fœtus. In the case which he described, fœtal movements were not felt for about eleven weeks during the illness of the mother; but they returned during the thirty-first week of her pregnancy, when her condition had improved. The question of induction of labour was considered. However, it was thought that the fœtus might be suffering from some motor weakness, including weakness of the respiratory muscles, and that it would be in better condition if the pregnancy was allowed to proceed to term. A normal full-term baby was delivered. Its movements were vigorous, although the mother was severely paralysed. It had a normal growth of scalp hair.

This case suggested that when thallium poisoning occurs during pregnancy, the child is much less severely affected than the mother. According to English, this is due to a lower concentration in the baby's tissues than in the mother's, as a result of placental screening, or to the fact that children are possibly less susceptible than adults to the effect of thallium. It seems advisable in these cases to refrain from induction of premature labour if the mother's condition is satisfactory.

Recently another patient with thallium poisoning in pregnancy was treated at the Mater Misericordiæ Hospital, North Sydney.

Clinical Record.

Mrs. A., a multipara, aged 20 years, had attended the ante-natal clinic at this hospital since September 24, 1958. The estimated date of her confinement was April 11, 1959. Her health was good generally, but she had a past history of recurrent pyelitis. At her first visit, her weight was 13 st. 5·5 lb., there was no albuminuria or œdema, and her blood pressure was 130/80 mm. of mercury. In spite of advice about strict dietary control, her weight increased to 13 st. 13·5 lb. by January 1, 1959, but her urine and blood pressure remained normal. At her visit on January 7, she said that fœtal movements had begun. When she attended the ante-natal clinic on January 28, she complained of severe, continuous, aching pain in both eyes, and of sharp, throbbing pain in her breasts. She stated that two weeks previously she had noticed a sensation of "pins and needles" in both legs. This gradually became more severe, and was followed by aching pain in the legs. Her weight had now fallen to 13 st. 1 lb. and her urine contained a deposit of albumin. Her blood pressure was 130/70 mm. of mercury.

She was admitted to hospital for observation on January 29. On examination, she was seen to be 28 weeks pregnant. The pulse rate was 90 per minute and the blood pressure was 100/80 mm. of mercury. There was no abnormality of the cardio-vascular system. Both breasts appeared normal, but were very tender. There was marked cutaneous hyperæsthesia of the legs, but no motor weakness was found. All reflexes were normal and equal on both sides, and both plantar reflexes were flexor. Her urine was now free of albumin. She was afebrile.

On January 30 her hæmoglobin value was 11·2 grammes per 100 ml., and her total white cell count was 6000 per cubic millimetre, the distribution being normal. The blood sedimentation rate was 40 mm. in the first hour (Westergren).

During the next two days, the patient complained incessantly of the pain in her legs and breasts and of numbness in the toes. There was no response to analgesics. Slight tachycardia developed, her pulse rate varying from 108 to 114 per minute. The blood pressure remained within normal limits. The patient refused any further investigations, and left hospital on February 1.

She was readmitted on February 11. Her presenting symptoms were now pain in all limbs, vomiting, loss of balance and swelling of the ankles. She also complained that her hair had been falling out. It was then ascertained that she had drunk the greater part of a bottle of "Thall-Rat" one month previously.

On examination, she was found to be dehydrated, lethargic and confused mentally. She was 30 to 32 weeks pregnant, the fœtus presenting by the vertex. The fœtal heart sounds were not heard, nor were any fœtal movements felt. The pulse rate was 104 per minute and the blood pressure 125/90 mm. of mercury. There was pitting œdema of both ankles. Motor power was diminished in both upper and lower extremities, and there was marked tenderness of the calves on deep pressure. All deep reflexes were absent, and both plantar reflexes were flexor in type. The cranial nerves were intact. There were several patches of alopecia on the scalp, and tufts of hair were falling out. The patient was afebrile. Her urine contained a heavy deposit of albumin.

Oral therapy with potassium iodide was begun, 15 grains being given on the first day. As there was no allergic reaction, the dose was increased to 90 grains daily.

On February 12, the patient's general condition appeared much better, and her mental state had greatly improved. She still complained of severe limb pains, which responded only slightly to analgesics. The fœtal heart sounds were inaudible, but the patient stated that she could feel movements. At this time the hæmoglobin value was 12·5 grammes per 100 ml. and the blood sedimentation rate was 49 mm. in the first hour (Westergren). Microscopic examination of the urine showed no abnormality. The blood urea content was 30 mg. per 100 ml., and the serum electrolyte concentrations were within normal limits. A 24 hour specimen of urine showed a thallium content of 2·7 mg. per litre. On February 18, fœtal movements were felt and fœtal heart sounds heard. During the next week the patient appeared much better generally, but she still complained of severe leg pain and had persistent tachycardia (pulse rate 110 to 160 per minute). She also showed some evidence of hypertension, the diastolic blood pressure rising to 100 mm. of mercury on two occasions, and once to 112 mm. However, the blood pressure remained generally within normal limits. There was frequent albuminuria, and the results of urea concentration tests were definitely below normal.

On February 25, frank hæmaturia developed. Microscopic examination of the urine showed every field packed with red blood cells and some bacilli. Culture of the urine yielded a heavy growth of *Bacterium coli*. The infection was treated with streptomycin. The hæmaturia gradually decreased in amount and ceased after one week.

At 10.15 p.m. on March 2, the patient became semicomatose. Her pulse rate was 110 per minute, and her blood pressure had fallen to 110/50 mm. of mercury. A few minutes later the blood pressure could not be recorded. The fœtal heart could not be heard, but tumultuous fœtal movements were felt. There was no vaginal bleeding. An intravenous infusion of "Levophed" in 5% glucose solution was commenced, and oxygen was administered intranasally. Within a few minutes the blood pressure had risen to 120/80 mm. of mercury, and the pulse rate was normal. At 11 p.m. the blood pressure was still at normal levels and the fœtal heart sounds could be heard, the rate being 140 per minute.

On March 3 the patient again developed tachycardia, the pulse rate rising to 140 per minute. She was still very drowsy, but her blood pressure was satisfactory and there was no further evidence of fœtal distress. On March 4 the patient was fully conscious and alert. Her urine still contained a trace of albumin.

FIGURE I.
The photographs show the patches of alopecia on the baby's scalp.

On March 6 the question of induction of labour was considered; but, as the condition of the mother had improved and that of the fœtus appeared satisfactory, it was decided to let the mother come into labour naturally.

On March 13 the thallium content of the urine was 0·83 mg. per litre.

On March 24 the hæmoglobin value was 12 grammes per 100 ml. and the blood sedimentation rate was 145 mm. in the first hour (Westergren).

On March 25 the thallium content of the urine was 0·15 mg. per litre. On March 26 the patient came into labour, and was delivered of a living female infant. The blood loss was 7 oz. The mother's condition was satisfactory. The child breathed and cried normally and moved her arms and legs vigorously. Her birth weight was 6 lb. 3 oz. The baby's hair had grown to a normal length, but several patches of alopecia were present. The placenta and samples of the cord blood and baby's urine were sent for estimation of their thallium content. No thallium was found. As there was still a small amount of thallium in the mother's urine, lactation was suppressed. The child took her food satisfactorily and gained weight. She was discharged from hospital on April 28, weighing 6 lb. 13 oz.

On April 1 the mother's hæmoglobin value had fallen to 9·5 grammes per 100 ml., and she was found to be suffering from normocytic orthochromic anæmia. Her hæmoglobin value rose to 10 grammes per 100 ml. on April 13 and again fell to 9·1 grammes on April 23, in spite of iron therapy. On April 6 her blood sedimentation rate was 88 mm. in the first hour (Westergren). Her urea concentration was still less than normal. Her blood urea content remained within normal limits.

On April 27 the urine was found to be free of thallium.

On April 28 the patient was discharged from hospital. She now felt quite well. Her hair, all of which had fallen out during her stay in hospital, was beginning to grow again. All signs of peripheral neuritis had disappeared. There had been no albumin in her urine for four days before her discharge. She was, however, still anæmic, and her urea concentration was still impaired.

On May 13 the patient attended the out-patient department. Her blood pressure was 110/60 mm. of mercury. There was no albuminuria. The baby's hair had not yet grown normally, as the bald patches were still visible. On May 25, an intravenous pyelogram showed slight impairment of concentration, but no other abnormality. On June 10 the patient again attended the out-patient department complaining of weakness of the legs, nausea and vomiting. No abnormality was found on examination. Her hæmoglobin value was now 11·2 grammes per 100 ml., and she was reported to have orthochromic normocytic anæmia of slight degree. She was asked to continue her attendance at the out-patient department, but has failed to do so in recent months.

On June 4 the child was admitted to this hospital because of failure to thrive. Her weight on leaving hospital had been 6 lb. 13 oz., and it was now 7 lb. 2 oz. Her condition was normal otherwise. She gained weight satisfactorily, and was discharged on June 17, her weight at that time being 8 lb. 10 oz.

Discussion.

This patient showed many of the well known manifestations of thallium poisoning. Her initial symptoms were pain and paræsthesia in the lower extremities and pain in the breasts. Pain and paræsthesia in the extremities were the earliest manifestations in 16 out of 18 cases of thallotoxicosis described by Allsop in 1953. These were the only symptoms complained of during her first admission, and the only abnormalities found were cutaneous hyperæsthesia of the legs and tenderness of the breasts. At this time the cause of her symptoms was not known, as she had not admitted to taking thallium.

When she was readmitted to hospital ten days later, it was learnt that she had drunk the greater part of a bottle of "Thall-Rat" between two and three weeks before her first admission. She now showed more definite evidence of thallium poisoning, as she was confused mentally, was losing her scalp hair and had developed peripheral neuritis. Allsop observed mental confusion in six patients, all of whom eventually died. However, our patient's mental state had greatly improved by the following day. She also made a good recovery from her later episode of hypotension and mental disturbance.

Sinus tachycardia has been a feature of many cases of thallium poisoning. In the present case, continual tachycardia was observed during the first six weeks of the patient's second admission. Her pulse rate became normal two days before her confinement.

It has been thought that mild hypertension may be a feature of thallium poisoning. Hypertension was observed on several occasions in the present case, but was not continuous. As it was associated with frequent albuminuria and some œdema, it may have been due to toxæmia of pregnancy. The blood pressure remained normal after delivery.

The albuminuria and hæmaturia and the subnormal urea concentration suggested some degree of renal impairment. This could have been due to thallium poisoning; but there was also a history of frequent attacks of pyelitis, and one attack occurred during the patient's stay in hospital. The blood urea content remained normal, and the albuminuria disappeared four days before the patient's discharge. The intravenous pyelogram taken one month later showed slight impairment of concentration, but was otherwise normal. In Allsop's cases, renal function does not seem to have been grossly impaired by thallium.

Another feature of the present case was a persistent orthochromic normocytic anæmia.

The child did not appear to be seriously affected by the thallium. During the first week of the patient's second admission to hospital, it was feared that the fœtus was dead, as no movements were felt and the fœtal heart sounds were inaudible. Later, however, the fœtal heart sounds were clearly heard. They were quite regular, there was no tachycardia, and normal fœtal movements were felt. The patches of alopecia on the baby's scalp were regarded as evidence that the fœtus had been affected to some degree by the thallium.

Our experience in this case was similar to that described by English, as induction of premature labour was avoided and a normal delivery occurred. The child was healthy apart from minimal effects of thallium poisoning. It would seem advisable in these cases to allow the pregnancy to proceed normally if the mother's condition is satisfactory.

Summary.

A case of thallium poisoning in pregnancy is described. The effects on the fœtus and the method of delivery are discussed.

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Reviews.

Diabetic Manual. By Elliott P. Joslin, M.D., Sc.D.; Tenth Edition; 1959. Philadelphia: Lea and Febiger. Sydney: Angus and Robertson Limited. 7¾" x 5", pp. 304, with many illustrations. Price: 41s. 3d.

THE tenth edition of "The Treatment of Diabetes Mellitus" by Joslin and his co-authors, which is better known as "Joslin", has been followed as usual by a new edition of Joslin's "Diabetic Manual". This book is much smaller, and is intended to instruct those interested in diabetes mellitus by means of clear, concise and dogmatic statements for which the evidence and its sources are not often quoted. There are few references and no bibliography, and the approach is both elementary and colloquial.

The reason for this is clearly seen, for the tenth edition, unlike its predecessor, is labelled simply "for the Patient". Nevertheless, it contains information of value to doctors as well. Although "Joslin" is a classic and an essential text for those concerned with the giving of expert advice on the management of diabetes mellitus, it is essentially a book for reference rather than for consecutive reading. "Diabetic Manual" is for those who are looking for a simple but readable account of the elements of diabetes and its management unencumbered by all the detailed facts and figures. For the intelligent patient it could be invaluable.

The tenth edition has been extensively revised; two chapters have disappeared, being absorbed elsewhere, and others have been altered or renamed. Some information has been included on the use of oral agents in the treatment of diabetes mellitus. A considerable number of illustrations have been omitted without detriment to the new edition. Those who are familiar with previous editions will be interested to see the children of Figure I looking extremely well, though considerably older, and to learn that their diabetic mother was able to visit Paris, Brussels and London during 1958 after 37 years of diabetes.

Diagnosis and Treatment of Tumors of the Chest. Sponsored by the American College of Chest Physicians; 1960. New York, London: Grune and Stratton, Inc. 10" x 6¾", pp. 384, with illustrations. Price: $14.75.

THIS beautifully produced book of 371 pages sponsored by the American College of Chest Physicians embodies an excellent collection of papers. The writers without exception are men of great experience, well known for their work in the field. Each has highlighted his essay with the important practical aspects. The problems of the practising physician and surgeon are set out in simple concise language.

Bronchogenic carcinoma is considered in detail. The value of preclinical rather than early diagnosis is emphasized. The authors hold that this is substantiated by the high five-year survival rate (42%) following resection for lesions picked up in X-ray surveys. A chapter on sputum cytology has been included. This ought to be read by every doctor who orders a sputum examination for malignant cells.

The role of tobacco is discussed, and credence must be given to the statement: "It is presumed that if smoking of tobacco, or at least in the form of cigarettes, were discontinued by the population, the lung cancer death rate would be reduced by a minimum of 50% among the younger generations who had not taken up the habit." Whilst admitting that this is difficult of achievement, the authors consider that the attempt should "include education of the public, particularly by the medical profession, regarding the fact that tobacco smoking is a health hazard, setting of the non-smoking example by public figures that have gained the influence of emulation by young people, and control of the hucksterism for cigarettes over public media of communication".

Adenomata of the bronchus are dealt with in a masterly way, though conservative resection is perhaps emphasized a little more than is wise. The section on terato-dermoids might have been expanded, for they are not uncommon and frequently present a challenging surgical problem. There is a short, valuable and beautifully illustrated chapter on tumours of the heart, though it is a little disappointing to find no mention of the report of the late Paul Chin.

An impartial summary of the position regarding radiotherapy is included. It is in keeping with the high standard of the rest of the book. No undue claims are made, although it is pointed out that the radiotherapist is usually consulted regarding the hopeless case, and rarely, if ever, has the opportunity of treating the early case.

This book can be enthusiastically recommended as a standard reference.

The Year Book of Dermatology and Syphilology (1958-1959 Year Book Series). Edited by Rudolf L. Baer, M.D., and Victor H. Witten, M.D.; 1959. Chicago: The Year Book Publishers. Sydney: W. Ramsay (Surgical) Limited. 7½" x 5", pp. 480, with 57 illustrations. Price: £4 13s. 6d.

THIS volume is again edited by R. L. Baer and V. H. Witten. In their introduction they state that the single most striking recent advance is the introduction of griseofulvin, for the treatment of superficial fungous infections. Another development which they single out for special mention is the introduction of triamcinolone acetonide preparations for topical use, stating that in many cases these appear to be superior to hydrocortisone preparations. They note that the immunological aspects of sytemic lupus erythematosus have continued to attract much attention, and that during the year under review much has been written about the subcorneal pustular eruption of Sneddon and Wilkinson (with the reservation that not a single significant advance has been made in understanding the basic mechanisms underlying the bullous, vesicular and pustular dermatoses). Among epidemiological investigations the editors draw special attention to Danish work on plantar warts, and among contributions on drug eruptions they make particular note of reports of eruptions due to penicillin in milk and to silk in vaccines. As has been their custom in previous years, Baer and Witten contribute as the first chapter of the book an extensive review of a special subject, in this case "Selected Benign Pigmented Lesions". The remainder of the volume is arranged in the usual way, with frequent annotations to guide the reader through this very complete coverage of current dermatological literature.

Synopsis of Treatment of Anorectal Diseases. By Stuart T. Ross, M.D., F.A.C.S., F.I.C.S.; 1959. St. Louis: The C. V. Mosby Company. Sydney: W. Ramsay (Surgical) Limited. 7½" x 4½", pp. 240, with 79 illustrations. Price: £3 11s. 6d.

IN his foreword to this book, Harry E. Bacon stresses the value of streamlining knowledge, and expresses the view that this type of production "presents essentials shorn of extraneous verbiage in a format that is easily handled and carried". Dr. Ross is a close associate of Bacon, and this book has condensed in a very able way the practice of those eminent surgeons.

It is easy to criticize a synopsis as a rule. Statements are made and rules formulated without support of statistics or close analysis of cases. Casual proctologists to whom this book will have special appeal may accept these; but the

specialist proctologist would appreciate detail — and, of course, this is not the intention of the author of a synopsis.

This is an excellent book and beautifully produced. The illustrations are numerous and clear, whilst the text is concise. The book is to be recommended.

Cancer of the Breast. Compiled and edited by Willard H. Parsons, M.D., F.A.C.S., with a foreword by Warren H. Cole, M.D., F.A.C.S.; 1959. Oxford Blackwell Scientific Publications. 9" × 6", pp. 247, with many illustrations. Price: 60s. (English).

IN the opening sentence of this book Taylor writes: "The breasts are mankind's badge of membership of the class of Mammalia." Such a journalistic introduction does not encourage one to continue reading and camouflages the real merit of the book, for it is beautifully produced, lucidly written and eminently practical. At the same time, whilst not profound, it brings the practising surgeon into touch with current concepts. Some opinions and descriptions may not coincide exactly with ours, owing no doubt to differing experiences. Thus one cannot say that only 56% of patients with breast cancer have axillary node involvement, or that medullary carcinoma carries with it a good prognosis, or that cystic and hormonal conditions carry with them four times the chance of the development of carcinoma. It is with pleasure that one notes the conservative attitude towards blood-stained discharge from the nipple. It is not very convincing to read that "pathologists, more or less instinctively" estimate the malignancy of breast cancer from their microscopic appearance. The author is rather non-committal about hereditary tendencies and does not express very clearly the relation of marital status to breast cancer.

The description of physical examination is excellent and the discussion of biopsy very practical. The discussion of the differential diagnosis between cyst and cancer is perhaps not quite up to standard.

Marshall, in describing the technique of radical mastectomy, has more faith than many in the efficacy of preventing skin recurrences, for he advocates limited skin resection so that the wound may be closed readily. In many countries irradiation is not directed towards the wound, but rather towards the lymph drainage areas. Byrd gives a good account of the place for simple mammectomy, but Urban spoils his chapter on superradical operation by too much of "I was the first" philosophy. Pendergrass is refreshingly conservative in his claims for the benefits of irradiation. As is to be expected in such a book, the chapter on hormonal treatment does not include much of the work done in the last two years.

This book has much to commend it, especially to the student and young graduate. The surgeon specialist will be well acquainted with all the opinions offered but it does summarize the matter neatly for him. The one most likely to benefit is the general practitioner.

Leukæmia: Research and Clinical Practice. By F. G. J. Hayhoe, M.A., M.D. (Cantab.), M.R.C.P. (Lond.); 1960. London: J. and A. Churchill Ltd. 9¾" × 7", pp. 346, with 12 coloured plates and 196 black and white illustrations. Price: 80s. net (English).

THIS well-produced and comprehensive monograph treats leukæmia under four main headings. The first section deals with the ecology and ætiology of human leukæmia and with experimental leukæmia, the second with morphological and biochemical charateristics of the leukæmic cell, the third with principles of therapy, and the fourth with clinical aspects.

The book is well documentated, and material on all aspects of leukæmia is provided. References later than 1957 are scanty, although modern approaches such as marrow transplantation are included. Much of the experimental work is presented uncritically; chapter summaries would help the reader to grasp what might be significant in the mass of epidemiological and experimental research on leukæmia now being conducted. The immunological aspects of leukæmia present, in the author's words, a "thoroughly confused picture".

The section on principles of therapy is complete and informative, covering the use of radiotherapy, chemotherapy, cytotoxic drugs, cortisone derivatives and supportive measures. An optimistic note for the future is not sounded. Clinicians may find the clinical aspects slightly abbreviated for a book of this scope—perhaps the "illustrative case reports" could be replaced by fuller clinical discussion. The photography and illustrations are of good standard.

This book is recommended as a broad and well-informed survey of recent work and current opinion on the subject of leukæmia at both the experimental and clinical levels.

Aids to Tropical Nursing. By Dorothy E. Cocker, S.R.N., S.C.N., with a foreword by W. H. Jopling, M.R.C.P., M.R.C.S., D.T.M. & H.; Fourth Edition; 1959. London: Baillière, Tindall and Cox. 6¾" × 4", pp. 312, with 35 illustrations. Price: 9s. 6d. (English).

IT is difficult to decide on what grounds to base an assessment of this book. On the cover it is stated to be "a complete textbook for the nurse"—but this it certainly is not. Nursing is a well-defined profession, and one is entitled to expect that in a textbook for nurses the emphasis would be on nursing, with ætiology, diagnosis, treatment and prophylaxis discussed in so far as they affect nursing as such, but "Aids to Tropical Nursing" is rather a not very impressive handbook on tropical diseases with the nursing aspect in most instances just sketched in. It appears that the excuse for this approach, suggested in the foreword, is that there is a "shortage of medical personnel", and that "a heavy burden falls upon the nurses, nursing orderlies and sanitarians who are so cheerfully and valiantly shouldering the type of work which would ordinarily be done by doctors". And in the opening chapter we read:

> It is for the nurse, as Health Officer, to gain the co-operation of the local authorities to overcome these defects, and also to rouse the people from their passive acceptance of these ills, so that enlightenment will be followed by enthusiasm for a better way of life. The nurse should not be content with limited facilities for teaching; she should be resourceful in obtaining from government departments and from commercial firms "visual aids", such as films, literature, posters and other propaganda that will drive home her teachings and make her informal discussion groups the more attractive.

Even if "Aids to Tropical Nursing" must, on these rather improbable terms, be accepted as a textbook for turning nurses into part doctors, part welfare workers and part health officers, surely it might have been better written. It abounds in grammatical errors (15 in the first 21 pages, for instance), it contains quite a lot that is medically doubtful or is so poorly expressed as to cause legitimate doubts, and it is in many places woolly and diffuse and in others quite inadequate. To give only two examples, there is much about sterilizing water by boiling, but no mention of chlorination, while the few lines devoted to scrub typhus are ludicrous in their sketchy inaccuracy. It would seem that on whatever grounds an assessment is based, the assessment cannot be favourable.

Lipide Chemistry. By D. J. Hanahan; 1960. London, New York: John Wiley and Sons, Incorporated. 9" × 5¾", pp. 340, with illustrations. Price: $10.00.

THIS is a textbook of the chemistry of simple and complex lipides for the advanced student who has previously made some study of organic chemistry and general biochemistry. The author's purpose in writing it was to give an account of the significance of new and improved fractionation techniques, isolation procedures, methods of assay, chemical structure and physical characteristics in the last ten years. It arose from a course of lectures to graduate students and will be joined later by a companion volume on lipide biochemistry. The topics considered are isolation and purification of lipids, phosphoglycerides, phosphoinositides, sphingolipides, minor phospholipides, simple lipides, association of lipides with proteins, and some naturally occurring lipoprotein systems.

It is a good technical source-book for any reader who wants to know the potentialities of a technique or the present state of knowledge concerning the structure and properties of lipides. It is well produced and, most important, provides satisfactory directions to readers wanting authoritative detailed literature on any of the topics considered.

The Organization of Psychiatric Care and Psychiatric Research in the Union of Soviet Socialist Republics, "Annals of the New York Academy of Sciences", Volume 84. By Nathan S. Kline; 1960. New York: New York Academy of Sciences. 9" × 6", pp. 74, with illustrations. Price: $3.00.

IN this paper, reprinted from the *Annals of the New York Academy of Sciences*, Dr. Nathan S. Kline presents a detailed report supported by statistics and illustrations. Psychiatry in Russia is part of the free and comprehensive

medical care which, together with schooling and higher technical education, full though often wasteful employment, disability insurance and retirement pensions, is available to all citizens.

Dr. Kline calls attention to short-term treatment in the mental hospitals and neuropsychiatric clinics, with concentration on ambulatory dispensary services; to disability benefits dependent on regular attendance at a clinic; to periodic health examinations of industrial workers and of a great part of the general population; to productive work-therapy paid at union rates; to teams for dealing with extramural psychiatric emergencies; to the higher ratio of psychiatrists to general population and to patients in the mental hospitals and clinics compared with U.S.A. The mental hospitals, like the housing, are overcrowded, and short-term treatments lead to a large turnover and frequent readmissions.

Treatment of the psychoses follows much the same lines as in the west, and all modern drugs are available. Chemotherapy is replacing electro-convulsive therapy. Electronarcosis is given to choreic and emotionally unstable children as well as to adults. In accordance with Pavlovian principles, psychoneurotics are reeducated rather than psychoanalysed, and social environmental factors are stressed, by the better control of which the authorities hope to reduce the incidence of psychoneurosis. Psychoses are as numerous and follow much the same pattern as in the west, and alcoholism is a serious problem.

Soviet physicians are "trade school graduates", since the medical schools have not been associated with the universities since 1929, and training in psychiatry is much inferior to that in U.S.A. Nevertheless, the medical scheme and, indeed, the whole social system appears to work well with a people which prefers security to the prospect of a liberty which they have never enjoyed. Dr. Kline warns about the consequences of allowing Russia to forestall the west in introducing comprehensive medical organizations into backward countries outside the Iron Curtain.

Physiology of the Retina and the Visual Pathway. By G. S. Brindley, M.A., M.D.; 1960. London: Edward Arnold (Publishers) Ltd. 8½" x 5½", pp. 310, with illustrations. Price: 35s. (English).

THIS small volume is the sixth in the series "Monographs of the Physiological Society". The earlier volumes in the series have already made a notable contribution to the physiological literature, and the author of the present monograph continues the high standard set by his predecessors. Dr. Brindley's primary interest is human visual function; but the scope of the subject matter is much wider than is implied from the title of the book. The term "visual pathway", for example, is used synonomously with the rather more familiar term "visual system".

The book essentially is in two parts. The first three of its seven chapters describe what can be learned of visual function by objective observations and measurements of the kind used in non-sensory branches of physiology. These chapters are almost entirely concerned with the photochemistry of the retina and the electrophysiology both of the retina and of the visual pathways and centres in the brain. The physiology of the sensory systems differs from that of other parts of the body in the unique dimension added by the fact that the human subject can report his own sensations. The fourth and middle chapter makes a particularly valuable contribution by assessing the place and value of the evidence derived from psycho-physical experiments in relation to that from objective observations and measurements. The last three chapters are concerned with psycho-physical observations though the emphasis is still physiological, in that the experiments are examined for the evidence they provide for hypotheses expressible in physico-chemical and anatomical terms. It is to be expected, therefore, that the discussion on colour vision would centre round the trichromatic scheme, though it is rather surprising that none of the alternative theories are even mentioned. The short account of the discovery of the idea of trichromacy makes very interesting reading. Both here and elsewhere throughout the book there is evidence that the author's wide-ranging scholarship includes a first-hand knowledge of the older English and European literature. For example, he remarks (page 199): "I cannot discover that any writer in the first half of the eighteenth century clearly appreciated the trichromacy of colour mixture, either for pigments or for lights." In addition, the author has himself made important experimental contributions to many of the topics he discusses, and has clearly given much thought to the theoretical implications of these and other observations.

Anyone interested in the physiology of vision will find rewarding reading in this book, although the author, consciously or unconsciously, assumes that the reader is reasonably acquainted with the general problems of visual physiology. As the author himself states, it is a "tightly written book, very full of information". It is essentially a book by a physiologist for physiologists. The worker in this field will almost certainly be stimulated by the author's critical assessment of the observations he describes.

Books Received.

[The mention of a book in this column does not imply that no review will appear in a subsequent issue.]

"Synopsis of Pathology", by W. A. D. Anderson, M.A., M.D., F.A.C.P., F.C.A.P.; Fifth edition, 1960. St. Louis: The C. V. Mosby Company; Melbourne: W. Ramsay (Surgical) Limited. 7¾" x 4¾", pp. 876, with 414 text illustrations and 4 colour plates. Price: £5 1s. 9d.

"Introduction to Health Statistics: For the Use of Health Officers, Students, Public Health and Social Workers, etc.", by Satya Swaroop, M.A., Ph.D., M.P.H., F.N.I.; 1960. Edinburgh and London: E. & S. Livingstone, Ltd. 9½" x 6", pp. 364, with tables and diagrams. Price: 40s. net (English).

"British Empire Cancer Campaign: Thirty-Seventh Annual Report Covering the Year 1959", Part 1, the Chairman's Statement and the Accounts of the Central Organization. London: British Empire Cancer Campaign. 9¾" x 7¼", pp. 44. Price: Not stated.

"British Empire Cancer Campaign: Thirty-Seventh Annual Report Covering the Year 1959", Part 2, The Scientific Report. London: British Empire Cancer Campaign. 9¾" x 7¼", pp. 684. Price: Not stated.

"Active Alerted Posture", by W. E. Tucker, C.V.O., M.B.E., T.D., M.A., M.B., B.Ch., F.R.C.S.; 1960. Edinburgh and London: E. & S. Livingstone Ltd. 8½" x 5½", pp. 72 with 24 figures. Price: 10s. 6d. net; De Luxe Edition: 17s. 6d. (English).

"The Sturge-Weber Syndrome", by G. L. Alexander, M.D. (Edin.), F.R.C.S.E., F.R.C.S. and R. M. Norman, M.D. (Bristol), M.R.C.P.; 1960. Bristol: John Wright & Sons Ltd. 9½" x 7¼", pp. 106, with illustrations. Price: 32s. 6d. (English).

"Expert Committee on Venereal Infections and Treponematoses: Fifth Report", World Health Organization, Technical Report Series, No. 190; 1960. Geneva: World Health Organization. 9½" x 6¼", pp. 76. Price: 5s. (English).

"European Technical Conference on the Control of Infectious Diseases Through Vaccination Programmes: Rabat, Morocco, 23-31 October, 1959: Report", World Health Organization Technical Report Series No. 198; 1960. Geneva: World Health Organization. 9½" x 6¼", pp. 24. Price: 1s. 9d. (English).

"Queen Square and the National Hospital, 1860-1960", with a foreword by Sir Ernest Gowers, G.C.B., G.B.E.; 1960. London: Edward Arnold (Publishers) Ltd. 8½" x 5½", pp. 124, with illustrations. Price: 30s. (English).

"Annotated Bibliography of Filariasis and Elephantiasis", Part 5, "Prophylaxis and Control of Filariasis due to Wuchereria bancrofti and W. malayi", by M. O. T. Iyengar; South Pacific Commission Technical Paper No. 129, June 1960. Noumea: South Pacific Commission. 10" x 8", pp. 110. Price: 6s. (sterling).

"The Mechanism of Action of Insulin: A Symposium organized by the British Insulin Manufacturers", edited by F. G. Young; 1960. Oxford: Blackwell Scientific Publications. 8¾" x 5½", pp. 338. Price: 32s. 6d. (English).

"Postmortem Homografts", by James Barrett Brown, M.D., F.A.C.S., and Minot P. Fryer, M.D., F.A.C.S.; 1960. Springfield, Illinois: Charles C. Thomas; Oxford: Blackwell Scientific Publications Ltd. 9" x 5¾", pp. 74, with illustrations. Price: 44s. (English).

"Report of the Medical Research Council for the Year 1958-1959", Committee of Privy Council for Medical Research; June, 1960. London: Her Majesty's Stationery Office. 9¾" x 6", pp. 338. Price: 15s. 6d. (English).

"The New Public Health: An Introduction for Midwives, Health Visitors and Social Workers", by Fred Grundy, M.D., M.R.C.P., D.P.H.; Fifth edition, 1960. London: H. K. Lewis & Co. Ltd. 8½" x 5½", pp. 224, with illustrations. Price: £1 1s. net (English).

The Medical Journal of Australia

SATURDAY, OCTOBER 1, 1960.

"BOTH FRIENDLY AND SCIENTIFIC."

IT would be a good thing if, within the next twelve months, or at any rate before the Australian Medical Association comes into being, every member of the British Medical Association in Australia could read Paul Vaughan's pleasantly written book "Doctors' Commons".[1] It would be somewhat analogous to the last acts of the young man of proud family before he leaves home to make his fortune—the perusal of the entries in the front of the Family Bible, the inspection of the ancestral portraits, the refreshing of memory on family tradition. For "Doctors' Commons", true to its subtitle "A Short History of the British Medical Association", manages to convey in its relatively few pages a satisfying account of the Association's story and, more important, a telling impression of what the Association stands for and what it has achieved. A series of notable and humanly portrayed figures pass in procession through its pages, entering, congregating, moving on; ideas and ideals are formed, developed, effected, sometimes shattered or pushed aside; and this with all the haltings, incongruities and disappointing setbacks inseparable from human fallibility, but still with worthwhile achievement. It is the story of the British Medical Association; yet it is much more, since that story cannot be told in isolation, and it inevitably conveys some of the whole picture of medical practice and of the medical profession in England against the national background over a century and a quarter.

The story begins in 1832 with the formation of the Provincial Medical and Surgical Association in Worcester under the leadership of Dr. Charles Hastings. "Provincial" it was deliberately and advisedly, for London was not only the metropolis, symbol of the dark industrial shadow spreading over England and of growing centralized power, but also the home of the Royal Colleges, whose nepotism did not endear them to the provincial doctors. London excepted, however, the new Association was intended to cover the whole of England and Wales. This was its first aim. The second was to be the "Maintenance of Honour and Respectability of the Profession generally in the Provinces". Vaughan comments:

> The dignity and status of Medicine were not just a question of professional pride: the health and welfare of the country were also at issue. Hastings realized that before the practice of medicine could be improved, the profession would have to forget its private quarrels and work harmoniously together. The personal rivalries and vendettas which had vitiated and sometimes stultified medical practice in the capital, and in the past had made the Colleges a laughing stock, were to be shunned. The Provincial Association was "both friendly and scientific' . . . . The Association was to be their rallying ground, where they could achieve the Association's objects by "promoting friendly intercourse and free communication of its Members; and by establishing the harmony and good feeling which ought ever to characterize a liberal profession".

Almost immediately on the formation of the Association it became concerned with medical politics—the achievement of the profession's aims by political means—and so important was this that it became a major factor in the eventual moving of the Association's headquarters to London in 1871, after its name had become the British Medical Association. Medical politics has of course remained, and is likely always to be, a major aspect of the Association's activities, carried on sometimes side by side, but more often inextricably linked, with the science and practice of medicine. To some, who affect a lofty scorn for medical politics, the juxtaposition may seem incongruous, but the Association has in general carried on this activity with a dignity and a sincerity that have outlawed the more squalid type of politics and have achieved a great deal that is of lasting value. Blunders there have certainly been, and Vaughan does not hide these, but his book amply vindicates honest medico-political activity.

Much of the work of the Association, not only in the United Kingdom, but in Australia and elsewhere, has been concerned with social reform and the advancement of the best interests of the ordinary people, with whom the practising doctor is in constant intimate contact. It is no accident, Vaughan points out, that the origins of the British Medical Association should belong to the year of the great Reform Bill.

> "Everything now conspires", said Hasting, "to make the present a fit time to begin our great experiment." Medical progress was to go hand in hand with social reform, and the health of the people to become a cause worth more than lip service.

One of the first controversies into which the young Association entered followed the passing of the *Poor Law Amendment Act* of 1834. Its provisions were harsh—to discourage pauperism—and its administration was, if anything, harsher. The conditions of employment of doctors under the Poor Law were bad, and the provision for medical care of the sick poor was deplorable. The struggle with the Poor Law Commissioners and with Parliament went on for many years, and reform was an "agonizingly slow process". Nevertheless, the fight was worthwhile. Other advances for which the Association can claim most of the credit in its earlier years were legislation to provide for the recording of causes of death, and the *Vaccination Act* of 1840.

Of great concern to the new Association was the unsatisfactory state of the medical profession as a whole. There was gross disunity within its ranks, standards of practice were often extremely poor, the standing of doctors in general was low, and many were economically insecure. The profession was grouped, with gulfs as

[1] "Doctors' Commons: A Short History of the British Medical Association", by Paul Vaughan; 1959. London, Melbourne and Toronto: William Heinemann, Limited. 8¼" × 5¼", pp. 274, with illustrations. Price: 22s. 6d.

divisions, into physicians, surgeons, apothecaries, and the unqualified remainder, many though not all of whom were frank charlatans. In a memorial presented by the Association to Parliament in 1839 the state of medical education was described as a "preposterous, mischievous anomaly", and the profession itself as "a body in which discrepancy and inequality of qualification have long constituted a prominent evil". The Association set itself vigorously and persistently to get something done about the situation, but it was a discouraging business. Between 1840 and 1855 no less than 17 Medical Reform Bills were introduced into Parliament and abandoned. Then persistence brought its reward with the passing of the *Medical Act of 1858*, which set up the General Council of Medical Education and Registration of the United Kingdom, entrusted with the fixing of a minimum standard of education, registration of those properly qualified and publication of an authoritative pharmacopœia. This Act Vaughan describes as not only a landmark in the history of the British Medical Association but also a landmark in the social history of the United Kingdom. It was not perfect, and many years were to pass before its defects were remedied, but it was a great achievement of which the Association could be proud, and a personal triumph for Sir Charles Hastings.

Many notable achievements of the Association in the field of social medicine and public health came later in the century, when "the mild, sober, and industrious Hastings" had been replaced as the dominant figure in the Association by "the rash, self-assured, freebooting Ernest Hart". Hart was Editor of the *British Medical Journal* from 1867 to 1898, and wielded great power, especially after he became Chairman of the Parliamentary Bills Committee in 1872. Fruit of this committee's activity, nine-tenths of which Hart is acknowledged as having originated, were the notification of infectious diseases, the registration of midwives, and the suppression of baby farms. Other issues in which it joined were lunacy legislation, railway servants' eyesight, the administration of anæsthetics, the *Oaths Act* and the *Alkali Works Registration Act*; almost none of these, Vaughan points out, had to do with the improvement of the doctor's status. In all these matters Hart made good use of the columns of the *British Medical Journal* to further the desired ends, as indeed its various editors have done since the journal was founded in 1840 as the *Provincial Medical and Surgical Journal*. Two other notable causes, among many, that it has been used to champion may be mentioned. The first was the reform of the army medical services, after the revelation of the appalling defects in conditions in the Crimea, which the editor of the day, J. R. Cormack, attacked in "ten leading articles of unflagging ferocity". The campaign was carried on by Cormack's successor, Andrew Wynter, and a certain amount was achieved, but the position did not really become satisfactory until the formation of the Royal Army Medical Corps in 1898 as a direct result of British Medical Association representations. The other major campaign was in the more recent days of Dawson Williams and consisted of a vigorous attack on quack medicines; this stirring fight, in which the patent medicine manufacturers received considerable support from the newspapers, had its satisfying moments, but it was not till the passing of the *Cancer Act* of 1939 and the *Pharmacy and Medicines Act* of 1941 that real control was achieved.

Much more might be mentioned—the scientific aspect of the Association's work, the story of the *British Medical Journal*, the growth of the Association's administrative organization and its several London homes—but it is all in Vaughan's book waiting to be read. So is the account of the endless negotiations with governments in the past half century, first over National Health Insurance and then over the present National Health Service. In this account we see the steadily diverging line of policy that has carried the pattern of medical practice in Great Britain a long way from that which obtains, and which we would want to obtain, in this country. Nevertheless, a fair reading of Vaughan's account of what has taken place will give us a better understanding of the point of view of our colleagues in Great Britain and of the Parent Association and may well allay carping criticism, even if it does provide us with some cautionary tales.

The cynic or the uninformed innocent sometimes asks: "What has the B.M.A. done?" Part at least of the answer is in Vaughan's book, to which the cynic and the uninformed innocent may well be directed. There is naturally much that could not be included in such a small compass, and nothing is told of the British Medical Association in Australia, but the pattern is there on which our Australian Branches were moulded. Sir Charles Hastings, in his moment of triumph at the passing of the *Medical Act* of 1858, exclaimed: "I glory that it has been the fortunate circumstance of my life to propose to the profession this noble Association." It is a noble Association. Faults there have been, faults there are, and faults no doubt there will be. But the over-all picture is good. The Australian Medical Association, when it comes into being, possibly in the Parent Association's one-hundred-and-thirtieth year, should be able to look with pride and gratitude to the rock whence it was hewn. It could do worse than to follow the simple aim of Hastings' original association—to be "both friendly and scientific".

Current Comment.

INTUSSUSCEPTION IN INFANTS AND CHILDREN.

It is appropriate that the first of a series of monographs on pædiatric surgical subjects[1] to be produced by the Johns Hopkins School of Medicine should be on intussusception, which is preeminently a problem peculiar to childhood, and singularly appropriate that it should be written by Mark M. Ravitch, who has been the pioneer in the United States in the use of hydrostatic pressure as a means of treatment.

The book covers very well the history of the disease and its treatment, from the days of Jonathan Hutchinson and Hirschsprung onwards. The work of non-American authors, including in Australia Sir Charles Clubbe, P. L. Hipsley, T. Y. Nelson and H. G. Hiller, is given its due place. Ravitch stresses that from 1875 to 1945 the results of treatment in clinics using hydrostatic pressure were clearly superior to those obtained by clinics employing operation alone.

[1] "Intussusception in Infants and Children", by Mark M. Ravitch, M.D.; 1959. Springfield, Illinois: Charles C. Thomas; Oxford: Blackwell Scientific Publications Ltd. 11" x 8½", pp. 136. Price: 76s. (English).

Before he commenced using controlled hydrostatic reduction, Ravitch, with McCune, carried out experiments in the production and reduction of intussusception in dogs. At intervals of from 18 to 48 hours after onset, the dogs were submitted to laparotomy, and saline reduction was attempted, with the use of three feet of pressure. Those in which the intussusception could not be reduced had the wounds closed and were subsequently allowed to die. Excellent photomicrographs showing the pathology of intussusception at different stages are provided. These demonstrate that gangrene was earliest and maximal in the returning limb of the intussusception, near its apex. Whenever gangrene was present, the intussusception was irreducible owing to adhesions between the returning layer and the ensheathing layer. No ruptures were produced by the hydrostatic pressure.

The clinical picture of the disease is adequately covered, as are likely errors in diagnosis. Treatment by operation and by hydrostatic pressure is discussed very fully, with numerous illustrations of the radiological appearances during reduction. It is, of course, stressed that hydrostatic pressure must be followed by immediate operation unless there is unequivocal proof of reduction. The problem of the irreducible intussusception is fully discussed, the author's preference being for primary resection with anastomosis. Ravitch quotes from experience with 77 patients, who had all been given the benefit of hydrostatic pressure, irrespective of duration of symptoms. There were no deaths in the series. Reduction was achieved in 75% of cases; but in 6% of these operation was considered advisable, as proof of reduction was not considered certain.

The arguments against hydrostatic pressure are listed, and each is fully discussed. The author makes the apt comparison with treatment of fractures, that closed reduction should always be attempted before resorting to open reduction. We have nothing but praise for this excellent monograph, and consider that it must exert a powerful influence within the United States on those clinics which hitherto have refused to recognize the superior results to be achieved by the author's methods.

PULMONARY ALVEOLAR PROTEINOSIS.

IN 1958 S. H. Rosen, B. Castleman and A. A. Liebow[1] described a newly discovered disease affecting the lungs which they called pulmonary alveolar proteinosis. This caused much interest, and a number of new cases have since been noted. W. Fraimow, R. T. Cathcard and R. C. Taylor[2] have made a very thorough study of two cases and surveyed the published accounts of other patients. The main features of the condition, which has shown a mortality of 30% in published cases, are alveolar-capillary block, characteristic histological aberrations in the lungs in which large groups of alveoli are filled with proteinaceous material, sometimes extensive enough to plug completely smaller bronchioles as well as alveoli, and widespread X-ray changes in the lungs. The clinical course shows insidious onset, with dyspnœa, weakness, fatigue, increased cough and weight loss. There are few, if any, physical changes beyond a slight decrease in breath sounds. In advanced cases there may be cyanosis and clubbing of the fingers. Secondary infections are common and may be associated with febrile attacks; they can be controlled by antibiotics, which have no effect on the disease itself. The diagnosis must be made by microscopic examination of lung tissue. X-ray findings are helpful. These, most typically, have shown a fine, soft, diffuse, bilateral, floccular-appearing density.

A detailed study of data on pulmonary function has produced a definite pattern of functional abnormality. In this pattern alveolar capillary block and increased venous admixture emerge as the causative elements in the production of pulmonary insufficiency including dyspnœa and cyanosis. There is a restrictive pattern of ventilation with relative preservation of ventilatory ability, hyperventilation, arterial oxygen unsaturation which greatly increases with exercise, and normal ability to excrete carbon dioxide. Breathing an increased concentration of oxygen does not correct the oxygen unsaturation of the blood, for the filling or partial filling of the alveoli by granular and floccular protein material prevents the contact of the venous blood with the oxygen-enriched gases in the alveoli.

Causation is unknown, and no satisfactory therapy has been found. Administration of iodine was followed by slow improvement in some cases. Steroids may be harmful, and antibiotics have no effect unless there is secondary infection and fever.

In the same issue of *Annals of Internal Medicine*, W. R. Edmondson and J. B. Gere[3] describe another case of pulmonary alveolar proteinosis in a Negro. Their findings are essentially the same as those of S. H. Rosen but much less detailed. They too can give no clue as to the causation and can suggest no effective treatment.

[1] *New Engl. J. Med.*, 1958, 258: 1123 (June 5).
[2] *Ann. intern. Med.*, 1960, 52: 1177 (June).

ESSENTIAL TREMOR.

ESSENTIAL TREMOR has been known as a clinical entity for many years, and there is almost general agreement that it is a clearly delimitable disease, characterized by a slow progression. Usually the tremor has a frequency of five to ten per second and a varying amplitude; it is increased with emotion and strain or with voluntary movements. There are no symptoms which could point to Parkinsonism. Mental changes and dementia are absent, and the disease does not shorten life. The frequency of such a disease can be assessed only with great difficulty. In some areas of Sweden the prevalence of this disease is high and has excited the interest of the inhabitants, so that Larsson and Sjögren[1] have been able to carry out a comprehensive study of the genetics and demography of the disease in a parish of some seven thousand inhabitants in northern Sweden.

The age at onset of the disease in this population is on the average about 50 years, with a few cases in adolescence and one at the age of 70 years. Tremor is usually less marked in the tongue than in the hands, but may cause the speech to be dysarthric. The groups of muscles affected are, in order of severity and usually in order of first affection, hands, arms and tongue, legs and finally trunk. Two hundred and ten cases of the disease were found and traced back to one or more of nine ancestral couples in the parish in the late seventeenth century, and it seems probable that all the lines have descended from a single mutation, perhaps in the early seventeenth century. The transmission is by autosomal chromosome and the heredity is monohybrid dominant. In all patients with a defective gene the condition is manifest by the age of 70 years. Penetrance is practically complete. Observations of 15 homozygotes show that there is no difference in symptoms or course of disease between homozygote and heterozygote. About 8% of the population of the parish have the gene for the disease. It appears, then, that this is the case of a mutation appearing about four hundred years ago; since the gene has no effects on fertility, the present high number of cases can be interpreted as due to chance variations at a relatively early date, when perhaps the parish numbered only some 150 persons. Once again, we can congratulate the Swedish geneticists on making full use of the peculiar advantages of their country — natural geographical features dividing the country, a high literacy, long-established and carefully kept records, and the freedom from military occupations and civil strife. We might also mention an academic tradition in genetics and population studies.

[3] *Ann. intern. Med.*, 1960, 52: 1310 (June).
[1] "Essential Tremor: A Clinical and Genetic Population Study", by Tage Larsson and Torsten Sjögren; Supplement 144; 1960. Copenhagen: Acta Psychiatrica et Neurologica Scandinavica. 9½" × 6½", pp. 176, with many tables and illustrations.

Abstracts from Medical Literature.

SURGERY.

Splenosis.

A. M. Cotlar and E. J. Cerise (*Ann. Surg.*, March, 1959) report two cases of splenosis, the autoplastic transplantation of splenic tissue following rupture of the spleen. In the first case splenectomy for traumatic rupture of the spleen was followed five years later by laparotomy for intestinal obstruction due to a volvulus of the jejunum secondary to adhesions; at this second operation multiple nodules (identified histologically as splenic in origin) were found over the greater omentum and the small bowel and its mesentery. In the second case splenectomy for traumatic rupture of the spleen was followed two years later by laparotomy for intestinal obstruction; the cause was found to be a solitary nodule (identified histologically as splenic) on the serosal surface of the jejunum forming the base of an obstructing band. The authors state that these two cases bring the total number recorded to 36. They point out that the true incidence cannot be ascertained because of the necessity to reexamine the abdominal cavity of previously splenectomized patients either at a later operation or *post mortem*. The condition, except in rare instances, is asymptomatic, noted only as an incidental finding at operation or autopsy. The authors claim that their second case is the first recorded instance of intestinal obstruction directly due to a solitary splenic transplant. They review the literature, and discuss briefly some experimental aspects.

Acute Upper Extremity Arterial Occlusion.

W. E. Trumbull, M. Uriu and B. D. Averbook (*Ann. Surg.*, March, 1959) report 17 patients with acute occlusion of a major artery of the upper extremity due to either embolus or thrombosis. Eight of these patients were treated conservatively by means of sympathetic block, antispasmodics and anticoagulants; there was one death and one above-elbow amputation. Nine of the patients were treated surgically; in eight instances embolectomy was performed, with removal of the propagated clot; in the remaining case 1 cm. of arteriosclerotic brachial artery was excised with restoration of continuity. In the surgically treated cases there was one death but no amputation. In the opinion of the authors surgical treatment gave better results, with prompt return of peripheral pulses and diminished likelihood of limb gangrene. They describe their technique for operation on the axillary and brachial arteries.

Acid-Base Balance in Surgical Patients.

W. B. Crandell and G. H. Struek (*Ann. Surg.*, March, 1959) made 62 studies of the acid-base balance of the extracellular fluid in 59 selected surgical patients, estimating the pH, the whole blood buffer base, the partial pressure of carbon dioxide, the serum bicarbonate, and the oxygen saturation of the arterial blood. Alkalosis was found in 38 studies, and acidosis in only six; two of the instances of alkalosis were considered to be due to apprehension causing overbreathing. In 33 studies the oxygen saturation of the haemoglobin was low (less than 93%), and in 36 the partial pressure of carbon dioxide was low (less than 36 mm. of mercury). Among 36 patients considered alkalotic because of disease were 24 with oxygen unsaturation and 23 with diminished carbon dioxide tension; these findings suggest that the respiratory system may be a factor of greater importance as a cause of alkalosis in surgical patients than has hitherto been recognized. The authors state that the accurate measurement of the pH of the arterial blood is the most reliable means of assessing acid-base equilibrium and differentiating the states of acidosis and alkalosis, for bicarbonate values were often found to be low in the presence of alkalosis.

Surgical Treatment of Hyperparathyroidism.

F. Glen (*Ann. Surg.*, March, 1959) discusses 38 patients treated at the New York Hospital for primary hyperparathyroidism over a period of 21 years. Thirty-two were found to be suffering from benign adenoma, three from hyperplasia, two from carcinoma, and in one the diagnosis was doubtful. In only three cases was more than one adenoma removed. Glen states that the experience with these patients indicates that hyperparathyroidism is being diagnosed earlier and treated more successfully than formerly. The late manifestations of marked bone changes and calcium deposition in other tissues are seen less frequently, and because most patients with renal calculi are being investigated for hyperparathyroidism diagnosis is made earlier. Moreover, thorough preoperative evaluation has produced convincing evidence of the diagnosis and thereby stimulated the surgeon to persevere with the search until the cause is found. The changes associated with hyperparathyroidism are reversible except in cases of long standing. Long-term follow-up studies have demonstrated that the excellent results of proper surgical treatment are permanent as well as immediate.

Primary Malignant Lymphoma of the Stomach.

G. McNeer and J. W. Berg (*Surgery*, November, 1959) discuss the clinical behaviour and management of primary malignant lymphoma. They state that this is a rare gastric neoplasm, comprising 2·2% of all malignant tumours of the stomach seen at the Memorial Center, New York, from 1931 to 1955. They state that there are no distinguishing features to aid in the clinical diagnosis of primary gastric lymphoma. The 36 cases submitted to laparotomy at the Memorial Center were classified pathologically as lymphocytic, reticulum cell and intermediate. No cases of primary gastric Hodgkin's disease were encountered. The authors consider that radical surgery plus radiation therapy is the most effective form of treatment. Six out of 17 patients treated by gastrectomy and eligible for five-year follow up were free from disease at the end of that period. One further patient, whose tumour was diagnosed as a lymphosarcoma by biopsy and at laparotomy was considered to be inoperable, was treated by radiation only, and is alive and free from disease 19 years later. It is emphasized that primary gastric lymphoma is to be distinguished from secondary gastric involvement, though the two are usually discussed together. The latter condition is never curable, and is frequently diagnosed only after death, whereas primary gastric lymphoma is a potentially curable lesion.

Antrectomy with Vagectomy for Chronic Duodenal Ulcer.

L. T. Palumbo *et alii* (*Surgery*, December, 1959) discuss their operation of antrectomy and bilateral infradiaphragmatic vagus resection for the treatment of chronic duodenal ulcer. They now treat all patients accepted for operation for this condition by this means, and they report on 115 consecutive male patients so treated between July, 1957, and the end of 1958. About 25% of the stomach is removed at operation, and an antecolic gastro-jejunal anastomosis, using a short afferent jejunal loop, is then performed. In 60% of the cases the ulcer was removed as it was bleeding, but in the remaining 40% it was not disturbed. Twenty-seven patients developed post-operative complications, the most frequent being gastric atony, homologous serum jaundice and pulmonary complications. There was only one post-operative death, due to acute pancreatitis. Post-operative investigation of stomach acidity showed persistent achlorhydria in 108 patients. The authors consider that this procedure has to date proved more effective in treating chronic duodenal ulcer than any other operation they have so far employed. They consider that it is accompanied by lower morbidity and lower mortality rates than most other surgical procedures for this purpose. They also state that rehabilitation is more rapid, that side effects are fewer, that operating time and stay in hospital are shorter, and that the chance of recurrent or marginal ulceration is minimal.

Colectomy in Ulcerative Colitis.

H. E. Bacon and J. L. Berkley (*J. Amer. med. Ass.*, January 23, 1960) discuss the question of rehabilitation and long-term survival after colectomy for ulcerative colitis in the light of their experience over the past 13 years. Out of a personal series of 468 patients seen during this period, 124 had been subjected to colectomy. The youngest patient operated upon was aged nine years, the oldest 76 years. Complications encountered included pseudopolyposis in 68 patients (55%), involvement of the rectum in 48, adenocarcinoma in 14. There were five deaths in the immediate post-operative period, and of the 14 patients with associated carcinoma nine have since died. Twenty-three patients who underwent colectomy were regarded as desperately ill at the time; of these one died at operation and four have died since (one of intestinal obstruction seven years later). In most patients the rectum was removed. The authors consider that

ileoproctostomy should be reserved for the small group of patients in whom the disease is confined to the ascending and transverse parts of the colon and in whom the rectum and sigmoid colon are and have been completely free of any disease.

Subtotal and Total Colectomy with Reestablishment of Continuity.

J. P. GLAUBITZ AND J. W. MCELWAIN (*Surgery*, October, 1959) state that total and subtotal colectomy with reestablishment of intestinal continuity are accepted surgical procedures in the management of certain colonic conditions. They have had experience in 11 such procedures, and this study discusses the functional results obtained. Their results were similar to other authors who have discussed this subject, except that their patients had had more frequent stools throughout their immediate and remote post-operative courses. There were no deaths amongst their patients, and there was not enough intestinal malfunction subsequent to total and subtotal colectomy to warrant conservation if extensive resection appeared advisable.

Epiphrenic Diverticulum of the Œsophagus.

D. B. EFFLER, D. BARR AND L. K. GROVES (*A.M.A. Arch. Surg.*, September, 1959) state that epiphrenic diverticulum is an uncommon entity comprising less than 10% of all œsophageal diverticula. It is a pulsion type of diverticulum covered with mucosa only, at times associated with hiatal hernia and diffuse œsophageal spasm, and there may be in addition hypertrophy of the inferior constrictor muscle of the terminal part of the œsophagus. The authors discuss their experience with seven patients, of whom six received surgical treatment. They found that hypertrophy of the circular muscle at the lower end of the œsophagus was a consistent finding in epiphrenic diverticulum. A coexisting hiatal hernia was frequently found. It was also found that a diverting mucosal flap adjacent to the diverticulum may be an associated feature of this pulsion type of diverticulum. The authors recommend therefore that, in addition to excision of the sac and careful closure of the œsophageal wall, the following steps should be carried out; myotomy extending from the diverticulum down to the gastric wall; incision of the mucosal valve, if present in the lumen of the œsophagus; repair of the œsophageal hiatus with complete reduction of the stomach below the diaphragm, if required.

Hernia Repair with "Marlex" Mesh.

F. C. USHER, J. R. HILL AND J. L. OCHSNER (*Surgery*, October, 1959) report on two years' experience with "Marlex" mesh, and conclude that it is of definite value as a prosthesis for hernia repair and replacement of other defects of the chest wall and abdominal wall. In a total of 109 cases there were three recurrences of the defects. Their patients were followed up for periods ranging from two months to two years, the average period being 12 months. The authors state that the mesh does not complicate or retard wound healing in the event of infection, and in none of the patients with wound infections had it been necessary to remove the mesh. The flexibility and softness of this prosthesis permit its use within the peritoneal cavity without the risk of erosion or perforation of intraabdominal viscera by the fibres of the mesh. The authors consider that the intraperitoneal implantation of this mesh in the repair of incisional hernias and its subfascial implantation in inguinal hernia repair provide a new and mechanically sound type of reconstruction, which they believe is superior to the more conventional techniques of using a prosthesis for reinforcement external to the musculofascial layers.

Brain Abscess and Osteomyelitis after Skull Traction.

G. T. TINDALL, J. F. FLANAGAN AND B. S. NASHOLD (*A.M.A. Arch. Surg.*, October, 1959) report that during a period of 11 months they had occasion to treat three patients with severe infections of the skull or brain following the use of skull tongs for the treatment of fracture dislocations of the cervical vertebræ, and call attention to the possibility of septic complications in patients in whom skull traction has been maintained. In two cases the result was a brain abscess, and in the third there was fatal osteomyelitis of the skull. The authors point out that to avoid these complications the tongs should be replaced at a new site if penetration of the inner table of the skull occurs, or if they slip out of the skull at any time during treatment. The tong device should be replaced by another method of cervical spine stabilization if infection occurs. The authors also point out that antibiotics are important adjuncts to treatment, but do not assure complete protection against infection.

Radical Mastectomy for Carcinoma of the Breast.

E. B. GRAY AND T. J. ANGLEM (*New Engl. J. Med.*, December 24, 1959) have followed up 184 private patients with cancer of the breast treated by radical mastectomy. They found that the five-year survival rate was 66%. They were unable to find any evidence that any of these patients were harmed by radical mastectomy. As a result of this study the authors are convinced that radical mastectomy is a more effective form of therapy for operable cancer of the breast than irradiation with or without simple mastectomy. They state, however, that certain local manifestations of advanced disease contraindicate the operation; these include the presence of supraclavicular metastases, fixed axillary lymph nodes, extensive œdema of the skin of the breast, satellite skin nodules, inflammatory carcinoma and chest wall fixation. They consider that, with those exceptions and provided that remote metastases are absent, radical mastectomy should still be used in cancer of the breast.

Carcinoma and Diverticula of the Colon.

J. L. PLONKA, J. DE WITT FOX AND B. E. BRUSH (*A.M.A. Arch. Surg.*, September, 1959) review 355 cases of cancer of the colon occurring in a five-year period. In 75 cases (21%) diverticulosis and diverticulitis were present as well. In 35 cases cancer of the sigmoid colon was closely associated with diverticula, and these cases were closely studied by the authors. Clinical suspicion of cancer was thought to be the most valuable single diagnostic aid. Sigmoidoscopic examination confirmed the clinical impression of cancer in 57% of cases, whereas it was of little value in the diagnosis of diverticulosis. The authors found that barium enema X-ray examination was of the greatest value in diagnosing both diverticulosis-diverticulitis and cancer. The result was positive in 45% of the cases, and was presumptively correct in 65%. This is considered to indicate the need for surgical resection in any equivocal cases, such as those in which there is complete obstruction or poor filling, and those in which atypical lesions with long poorly filled segments with diverticula are present. It is stated that a surgical attitude of aggressive prompt action in all cases of diverticula which appear at all suspicious of cancer is the one method by which cure rates may be improved. The authors state that any person having diverticulosis and diverticulitis should be followed up persistently with repeated examinations and enema studies, since these patients may have symptoms of constipation, bowel habit change, and abdominal distress indistinguishable from cancer. The sigmoid colon, where some 70% to 80% of diverticula occur, is also the site of 55% to 60% of cancers of the colon, and for this reason alone this area should be given careful scrutiny in any colon study. It is pointed out that approximately 5,000,000 Americans have diverticulosis, and that 1,000,000 of these are destined to have diverticulitis. Nearly 150,000 may expect to undergo surgery for diverticulosis complicated by diverticulitis, and 10% of these will be found to have associated cancer of the bowel. Therefore improved results can be anticipated only if search is consistently made for this dangerous combination.

Familial Intestinal Polyposis.

A. D. MCLACHLIN (*A.M.A. Arch. Surg.*, September, 1959) describes 11 clear examples of familial intestinal polyposis and a twelfth probable case. Nine of these patients were in one family, and had been followed up for over five years. Frank cancer in patients aged 22, 30 and 41 years, and malignant changes in polyps at the age of 19 and 25 years testified to the strong tendency of this disease to develop into cancer of the colon or rectum at an early age. Eleven of these patients had had colectomy and ileo-proctostomy performed, and a single one total colectomy and abdomino-perineal excision of the rectum with a permanent ileostomy. The author found that the functional results in cases of ileo-proctostomy were excellent, and there was a strong suggestion of a diminished tendency to polyp formation and even of regression in polyps which had appeared after the operation. The author considers that total colectomy and ileo-proctostomy with fulguration and long-term follow up of the polyps in the rectal stump offer safety and normal existence to sufferers from this disease.

Wider View.

DISEASE PATTERNS IN VIET NAM.

THE peninsula forming the south-east corner of the Asian Continent is presently occupied by three countries. Of these, the largest is Viet Nam, which borders the eastern shore. This is, in the main, a tropical land of meandering rivers in fertile plains, but it also has some mountainous country with dense jungle. Saigon is the capital city, and, together with its conjoined twin, Cholon, has a population around two million. The seasons are two in number—the hot and dry season, which extends from January till June, and the hot and wet season occupying the rest of the year.

The present Vietnamese descended from South Chinese stock. Some two thousand years ago, these Chinese invaded their southern neighbours. Since then the history of Viet Nam has been one of long domination by stronger powers and of struggles against these powers. French domination followed the Chinese. In 1949 the country became self-governing. This was followed by a series of internal revolts. Today the battle in Viet Nam continues, this time a strategic war against Communistic subversion. This historic background must be responsible, at least in part, for the intense atmosphere of nationalism, together with contempt for foreigners.

Viet Nam is part and parcel of the Orient and shares much in common with its culture. Superimposed on this is something of the French culture. The language in Viet Nam is Vietnamese, which is basically a Chinese dialect. There is some tendency today for students to learn English, largely as the result of Americans in the country bringing American aid.

The dominant religion is a form of ancestor worship with elements of Buddhism and Confucism. There are a number of interesting smaller sects.

In one of the outer suburbs of Saigon is a small mission hospital. In spite of the general anti-foreign feeling, it enjoys quite a popularity. Its main activities include a busy out-patient department, and surgical and obstetrical in-patient departments. The disease patterns personally observed in the out-patient department form the basis of this report.

The Incidence of Presenting Symptoms.

The leading complaint of each new patient personally examined and the leading complaint of old patients with distinctly new illnesses were recorded. The wet season pattern was recorded for two weeks from October 27 till November 10, 1959. The dry season pattern was recorded over one month from January 3 till January 29, 1960. The results are set out in Table I.

It will readily be seen that there is a fair degree of correlation between the two seasons, especially in regard to the commoner complaints. It will be noted that the incidence of coughs rises during the wet season. More patients with amenorrhœa presented during the dry season; but this is without significance, as a pregnant woman presents herself anywhere between the first missed menstrual period and the arrival of the baby. Those with labour pains usually presented first to the ward sister; hence they are not included in this series.

Provisional Diagnoses.

An over-all provisional diagnosis rate only is available for the two-week period in the wet season. This is as follows:

Infections (non-tuberculous)	28%
No provisional diagnosis	15%
Functional (neuroses)	12·5%
Pulmonary tuberculosis	12%
Psychosomatic headache	2·5%
Vasomotor rhinitis	2·5%
Peptic ulcer	2%
Other diagnoses	25·5%
Total	100%

For the dry season series, an analysis of the three largest groups of leading complaints was recorded. This is as follows:

Abdominal pain:

No organic cause found	64·3%
Peptic ulcer	11·4%
Inevitable miscarriage	5·7%
Ectopic pregnancy	5·7%
Appendicitis	2·8%
Carcinoma of the large bowel	2·8%
Labour pains	2·8%
Biliary colic	2·8%
Mid-menstrual pain	2·8%
Other diagnoses	12·9%

Cough:

Pulmonary tuberculosis	32%
Bronchitis	28%
Upper respiratory tract disease	28%
No organic lesion detected	8%
Others	4%

Fever:

Pyrexia of undetermined origin	47%
Tuberculosis	13%
Pneumonia	13%
Others	27%

Some points deserve further mention. The majority of provisional diagnoses of tuberculosis were confirmed by X-ray examination, and in addition, by this method some further cases were detected in the group in which no provisional diagnosis was made.

TABLE I.

Reason for Attendance.	Number of Subjects.	
	Wet Season.	Dry Season.
Abdominal pain	29 (14·3%)	47 (13·5%)
Cough	28 (13·7%)	33 (9·5%)
Fever	13 (6·4%)	32 (9·2%)
Amenorrhœa	4 (2·0%)	22 (6·3%)
Headache	10 (4·9%)	13 (3·8%)
Tiredness	10 (4·9%)	13 (3·8%)
Immunization	6 (3·0%)	12 (3·5%)
Check-up	7 (3·4%)	11 (3·2%)
Diarrhœa	5 (2·5%)	11 (3·2%)
Pain in chest	6 (3·0%)	10 (2·9%)
Vaginal bleeding	2 (1·0%)	7 (2·0%)
Giddiness	5 (2·5%)	6 (1·8%)
Rash	3 (1·5%)	6 (1·8%)
Limb pains	2 (1·0%)	6 (1·8%)
Convulsion	0	6 (1·8%)
Insomnia	2 (1·0%)	5 (1·5%)
General pruritus	1 (0·5%)	5 (1·5%)
Blocked nose	7 (3·4%)	3 (1·2%)
Sore throat	3 (1·5%)	4 (1·2%)
Lump in neck	2 (1·0%)	4 (1·2%)
Abdominal swelling	1 (0·5%)	4 (1·2%)
Constipation	1 (0·5%)	4 (1·2%)
Metrorrhagia	0	4 (1·2%)
Backache	2 (1·0%)	3 (0·9%)
Others	54 (26·5%)	75 (20·8%)
Total	203 (100%)	347 (100%)

Neurosis is by no means rare. Hysteria is relatively more common than in Australia, which is to be expected. Some of the cases which were given no provisional diagnosis could well have been functional. This group contained many weird leading complaints, such as "tinglings in the veins", "wind in the chest", "rustlings in the head". No abnormalities were detected on physical examination, and X-ray films and laboratory studies when performed revealed no abnormality.

The commoner diagnoses in the group "Infections (non-tuberculous)", in relation to the total number of cases, were as follows: lower respiratory tract infection, 6·5%; acute coryza, 4%; intestinal worms, 3%; gastro-enteritis, 2%; otitis media, 2%; abscesses, 1·5%; tonsillitis, 1%; amœbiasis, 1%.

It will be seen that peptic ulcer accounts for quite a few cases of abdominal pain. This confirms a clinical impression that peptic ulcer is common here. The month of January was unique, in that a record number of cases of ectopic pregnancy came in. This condition is not as common as would appear.

One disturbing feature is the large number of undiagnosed fevers. Most of these patients were young children and infants. Most of them improved because of, or independently of, treatment. One thing not shown in the statistics is the rather high incidence of typhoid fever. Most patients with reasonable veins are Widal-tested when the fever has continued for 10 days. A high proportion of them gave strongly positive results.

Surprisingly enough, vitamin deficiency states were very rarely encountered. The existence of most of the people could be described as "primitive" at best, and the usual diet does not impress one as being rich in vitamins. However, there is a craze for vitamins in Viet Nam just as there seems to be in more civilized parts of the earth.

Venereal disease is on the decrease in Viet Nam; however, one still sees an odd primary chancre. Gonorrhœa is much more common than syphilis. Hundreds of Kahn tests are performed during the course of a year, but less than 20% of the results are positive. Others become negative after treatment of the patient for intestinal parasites.

Tuberculosis.

As this is the most common serious disease, further observations were made in this direction. These are given below.

1. The leading complaints of 20 new (radiologically-confirmed) sufferers from pulmonary tuberculosis whom I examined during January, 1960, were as follows: cough, 6; chest pain, 5; tiredness, 3; fever, 2; hæmoptysis, 2; general pruritus, 1; rectal bleeding, 1. General pruritus as a presenting symptom, in the absence of diabetes, was new to me. Since this case, two others like it have presented.

2. Other symptoms of tuberculosis in these 20 patients were as follows: loss of weight, 16; expectoration of sputum, 14; tiredness, 14; cough, 12; fever, 10; pain in the chest, 8; night sweats, 6; hæmoptysis, 4.

3. The physical findings in these 20 patients were as follows: wasting, 11; elevation of temperature (over 100° F.), 11; râles in the chest, 10; altered complexion, 8. The altered complexion is difficult to describe. The alteration was a combination of pallor and a greyish colour.

4. All chest films taken from January 1 till March 31, 1960, and retained in the X-ray library of the hospital, were examined, and the distribution of pathological shadows in radiologically apparent tuberculosis was recorded. It should be mentioned that many patients take their films home. Others can afford only microfilms, which are not kept in the hospital library. It was noted that less than 50% of the films reviewed showed clear evidence of tuberculosis. Areas of calcification in the hilar regions with otherwise clear lung fields were not counted amongst the tuberculosis films. The results were as follows:

Single zone affected (44 cases):

Right upper zone	20 cases
Left upper zone	9 cases
Right hilar region	8 cases
Left middle zone	3 cases
Right lower zone	2 cases
Left lower zone	1 case
Left hilar region	1 case
Right middle zone	0

Total bilateral lung field involvement .. 24 cases

Total involvement of lung fields on one side (6 cases):

Left lung field	5 cases
Right lung field	1 case

More than one zone affected (36 cases):

Both upper zones affected	4 cases
Both hilar regions	5 cases
Left upper and middle zone	2 cases
Left upper zone and hilum	2 cases
Right upper and middle zones	1 case
Right upper zone and hilum	1 case
Other combinations	21 cases
Total number of cases	110
Number with the right upper zone involved	61
Number with the left upper zone involved	56
Number of films showing obvious cavitation	14

It was noted that the majority of films showing involvement of the hilar regions only were not from adults. It is interesting, in passing, to mention that most of the patients showing total lung-field involvement walked unaided into the out-patient department.

5. With regard to non-pulmonary forms of tuberculosis, tuberculous cervical lymphadenitis is fairly common. As most of the milk consumed comes from tins imported from the U.S.A., and to a lesser extent from France, this is difficult to understand. Bad hygiene probably accounts for it. Extrapulmonary dissemination appeared to be rare. Apart from Pott's disease of the spine and tuberculous salpingitis, spread is rare. Tuberculous meningitis and tuberculous renal disease are rare. One case of tuberculous meningitis was diagnosed from the wet-season series above.

Urgent Medical Problems of Viet Nam.

The pattern of disease in Viet Nam presents tuberculosis as the major problem in medicine. At present, this challenge is not met in any significant way by any group in the country. Public education, mass radiography and Government-sponsored free anti-tuberculosis drugs seem the obvious ways to begin to meet it. Of these, I would rate public education as the most important single factor.

Another problem, which also concerns mainly economics, is a relevant medical problem. This is over-population, coupled with poverty and all the attendant ills. At present it is illegal to buy or sell contraceptives. Operative sterilization is allowed only when the mother is aged 35 years or over and has had at least eight children. The answer to this problem, in my opinion, lies in making contraceptives freely available to married people, and possibly in slightly relaxing the legal requirements for operative sterilization.

It is held that education of the public in hygiene and vaccination would reduce the morbidity and mortality rates of gastro-enteritis, and the preventible diseases. Indeed, public education in health matters appears to be the most important single factor in meeting the medical problems in Viet Nam today.

Saigon. A. A. JONES.

Out of the Past.

THE PREVENTION OF EPIDEMIC DISEASE.

[From "Diseases Which Should Be Prevented", by James Jamieson, published by the Australian Health Society, *circa* 1880.]

WE BRITONS, who never shall be slaves, and who insist that our houses are castles, have a great objection to any kind of legislation which interferes with the freedom of private persons. Indeed, one might almost think that the liberty to scatter about the seeds of dangerous diseases is a privilege which must not in any way be limited . . . .

I hope, and indeed believe, that the time will come when those who make laws, and those who are subject to them, will see that the liberty at present enjoyed of scattering the poisons which produce epidemic diseases, is no right liberty at all, but a misdemeanour, if not a crime, to be checked and punished more efficiently than is yet the case. Till that happy consummation something can be done in the way of sanitary improvements of various kinds, and such measures as the total abolition of cesspools, sufficient supply of pure water, careful supervision of milk supply (a way by which epidemics often spread, to which attention has been directed of late years), will do much. The proper and systematic use of disinfectants is doubtless of great value now, and will become more useful as knowledge spreads and the public conscience is educated more fully than it is at present. A proper system of drainage of towns is a very important requisite, and it is nothing less than a disgrace that some scheme for draining this city and its chief suburbs has not long ago been devised and carried out in part or in whole. In the case of typhoid fever more than any other epidemic might good results be expected to follow. It has been established that that disease is propagated by means of the stools of persons suffering from it. By them the soil or water is contaminated, and by emanations from the soil, or from cesspits or drains, or by the use of water, milk, etc., so contaminated, healthy persons are affected. From my own observations I know that very often such discharges are simply thrown into the gutter, to find their way no one knows whither, but certainly often enough to cause the recurrence of new cases. The free use of disinfectants might reduce the risk to a minimum, but they are expensive and cause trouble. What can people living in narrow lanes and crowded courts do, better than throw the discharges into the channel and perhaps turn on the tap, so that they may be at least washed a little way off?

British Medical Association.

NEW SOUTH WALES BRANCH: SCIENTIFIC.

A MEETING of the New South Wales Branch of the British Medical Association was held on October 31, 1959, at the University of Technology, Newcastle, Dr. M. S. ALEXANDER, the President, in the chair.

Hand Infections.

Dr. N. C. NEWTON read a paper on hand infections. This paper has not been made available for publication.

DR. N. L. NEWMAN said that acute hand infections were dealt with largely by casualty surgeons and general practitioners. Referring to keratoacanthoma, Dr. Newman said that he had seen a few patients with those lesions who had been referred back again; they had appeared to be safe to leave, but in fact some of them grew considerably larger. Some of the patients had had radiation therapy without success, and he had ended by having to excise the lesions and apply a skin graft. Dr. Newman asked Dr. Newton whether he would agree that that treatment was sometimes necessary, when spontaneous healing did not seem to be occurring.

Dr. Newton said that he agreed, and that the majority of those lesions should be treated. The pictures he had shown were taken at the time when they first became aware of the condition, and they were content to wait a little while. In his own practice he believed that the lesions were best excised when this was easy and did not cause mutilation. Everything was then over, without the worry of wondering whether the lesion was a keratoacanthoma or a skin cancer.

DR. D. J. B. WARDLE said that he supported the use of local anæsthesia and a tourniquet; but he also pleaded for the use of a little spoon of the Volkmann type to get rid of the greenish pus that acted as a foreign body.

Dr. Newton, in repiy, said that he thought it a good idea. He used such an instrument in several places like the palmar sinuses, etc.

DR. J. R. PACY asked two questions. The first was whether it was of any value to add hyaluronidase to the local anæsthetic solution, and whether doing so increased safety. The second was whether, if feeling did not return after eight hours, it was a good idea to inject a small amount of papaverine; or was it not necessary to do so?

Dr. Newton, in reply, said that he had not used hyaluronidase; he had found the method he had described satisfactory. He had had no trouble from lack of return of sensation. There were one or two other things involved besides care in using the right anæsthetic. For example, the tourniquet was not meant to cut the finger off; sometimes it was pulled too tight. It was also wise to use artery forceps on the tourniquet. Dr. Newton quoted an incident in which a resident medical officer had telephoned him in considerable distress. He had performed an operation on a child the day before, and had used no forceps, but a thick rubber band. He had put the bandages on, and forgotten to take the rubber band off. The child returned the next day with a gangrenous finger.

DR. D. G. WALKER first asked Dr. Newton whether had had any complications from injection of the median nerve. Dr. Walker also said that when he was in Dr. Newton's clinic, they used penicillin and sulphonamides; he asked what they used now. Dr. Walker finally asked Dr. Newton what he would do with an infected tendon sheath.

Dr. Newton, in reply to Dr. Walker's first question, gave a warning against the danger of causalgia. He said that he made no attempt to inject the median or ulnar nerve, but infiltrated around it. Over a period of eight years he had had no case of causalgia, nor had there been one in the hand clinic at University College. In reply to Dr. Walker's second question, Dr. Newton said that no antibiotic powder at all was used at the present time. In bygone days, infections had mostly responded to penicillin powder, except when the patients were nurses or doctors. Nowadays nothing of the kind was used except when the infection was one of the more serious type that did not appear to be retrogressing after a few days, and then the appropriate antibiotic was used. Antibiotic treatment was given also to anybody working in or around a hospital. Dr. Newton urged that nothing stronger than penicillin or perhaps streptomycin should be used, unless it was obvious that something very serious was going to develop that would not respond. In reply to Dr. Walker's third question, Dr. Newton said that he had deliberately avoided talking about tendon sheath infections; in his experience they were very rare. A case occurred perhaps once every year or two years in a hand clinic. Tendon sheath infection had occurred predominantly as the result of a wound that had penetrated the tendon sheath, or of misplaced zeal in opening soft tissues. He believed that it was best treated in much the same way as pulp infections. He had not had a case in which any fingers were lost, but sometimes part of the infected tendon had been lost; no counter-drainage had been required anywhere else.

DR. K. B. WALKER referred to the principle of draining abscesses, and of being certain where they were located and where they were pointing, as in ischio-rectal abscess.

Dr. Newton said that those principles applied to infection anywhere. It was not obligatory to wait until there was fluctuation. One should sum up the position, and try to find a point of great tenderness in one area which showed that there was pus there. No harm was done by waiting; harm was done by rushing in.

A speaker referred to the patient whose finger was throbbing, and who had had no sleep all night. He asked what was the relationship between the throbbing and pus formation.

Dr. Newton, in reply, said that he had been taught that the patient who had a throbbing finger needed it opened. He thought that was possibly right—possibly there was pus in it. However, the fact that it had been throbbing all night did not show the medical attendant where the pus was. It was better for the patient to have another sleepless night than for the doctor to open the finger too early or in the wrong spot. The throbbing might mean not pus, but cellulitis.

Dr. Pacy spoke again, on the subject of delay in return of sensation. He said that in those circumstances he had injected a small amount of papaverine. He asked Dr. Newton whether it was necessary or not, and whether drawing ointments, etc., had any value.

Dr. Newton, in reply, said that he thought it would not matter much whether papaverine was used or not. "Xylocaine" did seem to have a very prolonged effect. The only value in the treatment suggested by Dr. Pacy would be in regard to the circulation; he did not think it would help sensation. Dr. Newton did not think that drawing ointments and dressings of any particular preparations had any value whatever. Dry gauze was best.

DR. K. C. T. RAWLE said that he supported the use of local anæsthesia. With regard to the question of locating pus in the throbbing finger, he said that if the hand was hung down and a search was made, a spot would be found that was much more tender than the rest. Dr. Rawle then said that one type of infection that was particularly worrying was an infected corn on the little toe. The infection went right into the joint, and healing was very slow.

DR. E. V. BARLING said that he agreed with Dr. Newton's remarks; but he wanted everyone to realize that they were living in a golden age. When one was in a place where medical care was hard to get, as in a prisoner-of-war camp, one saw all the classical infections described by Kanavel. Dr. Barling referred to the fact that during the war the French soldiers were not allowed to seek treatment until it was very late; early treatment and the use of antibiotics would localize the infection, as Dr. Newton had indicated.

Dr. Alexander, from the chair, said that he had in his library a book that he had acquired as a fourth-year medical student—Kanavel's book, published in 1925. He had glanced at the preface, and had been struck by the penultimate paragraph. The gist of it was that it was the general practitioner who first came in contact with hand infections, and he should know most about them. Dr. Newton's practical approach had been most helpful to all those present to achieve that object.

The "Acute Abdomen".

DR. E. V. BARLING read a paper on acute abdominal emergencies. He said that the term "acute abdomen" might be applied to any abdominal crisis, commonly associated with severe abdominal pain, demanding immediate decision as to whether operative interference was required. In approaching such a crisis, it might be helpful to consider the problem in a series of stages by asking a series of questions.

What Are the Most Likely Causes of an "Acute Abdomen"?

Dr. Barling said that it was a well-known fact that common things were common, and knowledge of the

probabilities was of great importance in any diagnostic effort. The aphorism "the bird sitting on the fence outside may be an eagle, but is a sparrow" summarized the situation. The commonest abdominal causes of "acute abdomen" at the Royal Prince Alfred Hospital over the last three years could be presented in seven groups: (i) acute appendicitis; (ii) intestinal obstruction; (iii) ruptured viscus; (iv) acute pelvic disasters; (v) acute cholecystitis; (vi) acute pancreatitis; (vii) renal colic. To those groups he added an eighth — extraabdominal causes. Dr. Barling stressed the fact that the possible diagnoses were almost infinite, and the inclusion of the eighth heading should serve as a reminder that such was the position. In considering the list, a few points had to be made. First, acute appendicitis was four or five times as common as its nearest rival, intestinal obstruction. Next, acute salpingitis was becoming a very rare disease. Thirdly, acute cholecystitis was the term employed in preference to biliary colic. Obstruction of the neck of the gall-bladder by a stone distended the only part of the biliary tree containing a complete muscle layer, and was the chief cause of the abdominal crisis referred to loosely as biliary colic. Fourthly, the commonest causes of intestinal obstruction were adhesions and external hernias when the small bowel was obstructed, and carcinoma coli and diverticulitis in large-bowel obstruction.

Must Diagnosis Be Absolutely Accurate?

Dr. Barling said that it was fundamental that accuracy of diagnosis was always important; but in dealing with an abdominal crisis it was soon apparent that such accuracy was not essential for correct therapy. Therefore, in examination of the patient with an acute abdominal condition, whilst remembering the seven specific diagnoses commonly responsible, one should initially make what could be called a "generic" diagnosis. That entailed inquiry along six lines: (i) Was shock present? (ii) Was shock due to hæmorrhage (especially internal hæmorrhage)? (iii) Was peritonitis present? (Any local mass should be noted.) (iv) Was obstruction of the gut present? (v) Was typical "colic" present? (vi) Was there another lesion, abdominal or extra-abdominal, that could account for the situation? Sometimes such consideration would make selection of a final diagnosis easy. Only too often, the final diagnosis would still be elusive. In such a state of indecision, one had to fall back to the inescapable third question.

Is This an Immediate Surgical Problem or Not?

Dr. Barling said that that question was usually answerable, provided one had taken a careful history, made a full clinical examination, examined the urine microscopically, benefited by an estimation of the hæmoglobin value and leucocyte count, and preferably had a plain X-ray film of the abdomen (erect and supine) and an estimation of the serum amylase content. As always, emphasis should be laid on history and physical examination as the main basis for final appraisal; extraclinical aids were often fallacious, and whilst the plain X-ray film would often make a complete diagnosis, it was the clinician who should assess the situation and refrain from assuming a diagnosis so obtained unless it could be made to fit in with his conceptions. The fourth question would often obviate the necessity for making a firm decision on the third question.

What Is the Risk Associated with Operating on the Patient at This Stage?

Dr. Barling said that it would often be the case that correct assessment of the operative risk was of far greater importance than the making of a correct diagnosis. Even at the present time, when the possibility of replacing limbs and even heads seemed just around the corner, there must be a rational limit to surgical heroics when a fatal outcome could be reasonably predicted. Thus, in the final analysis one aimed to do what offered the patient the greatest safety under the set of circumstances prevailing. That, therefore, might mean one of three courses: (*a*) observation and resuscitation; (*b*) operation—even though occasionally performed as a necessity to exclude a lesion which might progress to a fatal outcome if not treated surgically; (*c*) withholding operation because of poor operative risk, in spite of the presence of an obviously surgical condition.

Dr. Barling then said that in general terms one might adopt the following guides to the treatment of patients who presented a satisfactory operative risk.

Conservative Therapy Associated with Resuscitation.

The conditions falling under that heading were stated to be: (*a*) colic, including acute obstructive cholecystitis; (*b*) pancreatitis, when the diagnosis was confidently made; (*c*) adhesive obstruction (patients on whom prior laparotomies had been carried out for similar adhesive obstruction); (*d*) extraabdominal conditions.

Laparotomy, Often with Prior Resuscitation.

Laparotomy was indicated in the following conditions: (*a*) ruptured viscus; (*b*) internal hæmorrhage; (*c*) obstruction (appendicitis); (*d*) strangulation; (*e*) local abscess; (*f*) post-operative abdominal crisis; (*g*) progressive deterioration in spite of resuscitation when a remediable condition was considered present, for example, ruptured abdominal aneurysm.

Conclusion.

Dr. Barling finally said that an "acute abdomen" was a challenge to all practitioners. Reading about the subject gave little help to one actually confronted with the clinical problem. No matter how experienced one might be, "reduction to the ranks" of beginners could be brought about frequently enough to keep one permanently humble, and sympathetic to others in a similar position.

Discussion.

Dr. D. G. Walker referred first to the role of the temperature in the assessment of an acute abdominal condition, in particular the relationship of the temperature to acute appendicitis. He said that about eighteen months earlier a report from the Edinburgh Royal Infirmary had been published, in which an analysis was made of all cases of acute appendicitis over a period of three years; no elevation of temperature had been noted in 78%. The upper limit of temperature was taken as 98·6° F. To him that seemed extraordinary. It was his impression that if the temperature was taken adequately it was usually found to be elevated; in only 5% to 10% of cases was there no rise. The second point raised by Dr. Walker was Dr. Barling's statement that therapy was more important than diagnosis; the decision to be made was whether to operate or not. Dr. Walker said that acute appendicitis was a very common condition; it caused great concern to the general practitioner and the surgeon, and the decision whether to operate or not was a grave one. No one doubted that the patient was having severe abdominal pain and that the appendix might burst. But what of the equivocal case? One frequently read that the removal of a number of normal appendices should be regarded as the price to be paid for reduction in mortality and morbidity. But how sure should one be? There were a great many equivocal cases, and he thought that it was in those cases that there was a place for conservative treatment. Conservative treatment must not be confused with no treatment at all; the Ochsner-Sherren treatment should be faithfully carried out. If, on the other hand, the clinician had a reasonable suspicion, why should he not operate? The mortality now should be very low, and the patient would be out of hospital very soon. However, the thing that worried him was that there was the possible long-term morbidity from the operation. In his own beds, within the last month or so, Dr. Walker had had three cases of intestinal obstruction due to bands and adhesions from previous appendicectomies. All the patients had required laparotomy, and one had required resection of small bowel. On perusal of the records, it appeared fairly certain that there was no acute inflammation present in two out of three of those cases at the original operation of appendicectomy. Dr. Walker said that, on those grounds, if they could reduce the number of normal appendices removed, they would be doing a great service.

Dr. Barling, in reply, said that he agreed with Dr. Walker that a moderate amount of pyrexia was usual; but gross elevation of temperature made one suspicious that the condition was not appendicitis. In adults, if the temperature was over 103° F., then one suspected that the condition was not appendicitis. That was not so in children—they could have a high temperature. Discussing the indications for operation, Dr. Barling said that if the pain had moved from the umbilicus to the right iliac fossa, the patient must be operated on immediately. Otherwise he could be observed and operated on later. He had found that if a patient was sent to hospital with a diagnosis of equivocal appendicitis, removal of the appendix relieved his symptoms. *An occasional patient returned with Crohn's disease, etc.* In a teaching hospital, it was important that one should be as correct as possible in the diagnosis; thus a laparotomy *was not rushed into unless the diagnosis was definite, or* other features indicated its necessity.

DR. D. J. B. WARDLE asked whether there was possibly another broad group of acute abdominal conditions, not extraabdominal, but in the abdominal wall; he mentioned as examples rupture of the intragastric artery, or pain from spinal nerve roots. Dr. Wardle said that that idea had

struck him on one or two occasions. He then said that in acute appendicitis to wait was a mistake, and it should be treated surgically, quickly. In appendicitis, concentration on mistakes should be on chronic appendicitis; the grumbling appendix should be removed from the grumbling patient.

Dr. Barling, in reply, referring to extraabdominal causes of abdominal pain, said that he could have written up a very long list. However, he did remember a woman with severe abdominal pain for which he had given her an alkaline bismuth mixture. She returned next day with herpes.

DR. K. S. JONES said that the subject was very difficult. He referred first to pyrexia in acute abdominal conditions, and said that it had been his sad experience that the two biggest single errors in getting the patient to the operating theatre quickly enough were (i) the obsession with pyrexia and (ii) failure to make a rectal examination. Dr. Jones supported the Edinburgh findings; four-fifths of the people with acute appendicitis had no marked rise in temperature. It was difficult to give a list of conditions causing acute abdominal emergencies. However, one had recently been growing more common—incarcerated hiatus hernia; in an obese person that was often misdiagnosed. Dr. Jones asked whether that had been noticed at Royal Prince Alfred Hospital.

Dr. Barling, in reply, said that he did not for one moment think that the temperature was the most important thing in the diagnosis of acute appendicitis. In his part of the world incarcerated hiatus hernia seemed very uncommon. Occasionally they had cases of rupture of the lower end of the œsophagus with or without an associated hiatus hernia.

DR. T. HAMILTON asked Dr. Barling about the case of a girl, aged five years, who was brought into hospital with a mass in the right iliac fossa. She settled down happily, and was discharged from hospital. Dr. Hamilton asked whether he should get her back later and remove her appendix, or not.

Dr. Barling, in reply, said that he always taught students that if a person had acute appendicitis in any stage, operation was necessary. If an abscess formed, it should be drained. He did not always hold to that. Sometimes the condition would settle down in a week. Dr. Barling said that he felt strongly that the appendix should be removed later. In two or three months the whole region was, in many cases, like a "virgin" abdomen. If the operation was performed earlier, the surgeon was likely to strike trouble.

DR. J. N. R. STEPHEN referred to the question of nocturnal enuresis and chronic appendicitis. He said that a month prior to the meeting he had removed the appendix of a girl who had suffered from bed-wetting for 14 years. She had complained of a stitch in her side, nothing more. Her enuresis was cured. At operation the appendix was large, patent, free in the pelvis and slightly inflamed. The large omentum was well down in the pelvis and some free fluid was present. She had developed an automatic bladder, which she emptied every 90 minutes during the day, and she wet the bed at night. Since removal of the appendix there was no increased frequency of micturition during the day, and she did not get up at night.

Dr. Barling, in reply, said that he did not know anything of the association. However, he thought that in teaching students one should give them a definite indication for the removal of a chronically inflamed appendix, such as pain in the region, local tenderness to palpation, reflex dyspepsia; it did not matter what general symptoms the patient had.

DR. T. Y. NELSON drew attention to the fact that there was an age group in which appendicitis was not the most frequent cause of abdominal emergencies—between three months and two years; the common emergency in that age group was intestinal obstruction due to intussusception. On every occasion, the fact should be emphasized that the presentation of intussusception in a young child did not follow the textbook description. In about 6% of cases the child vomited, but had no other symptoms. Nobody took much notice of vomiting in a very young baby. Two or three days might elapse before intestinal obstruction was diagnosed. In the past it had been very hard for many people to recognize those cases, so that the patients came to operation with irreducible intussusception, and provided the greatest mortality.

DR. E. S. STUCKEY said that he would be the lone voice saying something about the grumbling appendix. He did not believe in chronic appendicitis, but he did believe in acute appendicitis that subsided without operation. There could also be mild repeated attacks of appendicitis. If the appendix was retrocaecal or retromesenteric when the patient was finally operated on, the surgeon realized why he did not make the diagnosis during previous mild attacks.

Dr. Barling, in reply, said that he believed that all appendices that caused trouble should be removed very early.

DR. J. R. PACY discussed the matter from the general practitioner's point of view. He said that he was caring for a population of about 1000, and had about one appendicectomy per year. On the whole, he might be confronted with about 12 to 15 acute abdominal emergencies per year. Three hours and more might have to elapse before transport over rough roads to the nearest hospital equipped for major surgery could be arranged and admission take place. He had to decide on the spot what to do—whether to admit a patient to such a hospital or examine him again first. It might not be possible to do so for a day. He had found that out of 12 patients with acute abdominal emergencies, eight would settle down on observation, and he would never really know what they had been suffering from. Of the remaining patients, most would turn out to have acute cystopyelitis or cholecystitis or other conditions often remaining undisclosed. That was the statistical aspect of the problem that presented itself to the general practitioner; it was necessary to teach students what they would have to face. He often found it puzzling; for instance, when the abdomen was held rigid and there was no tender spot, it could be most difficult to decide.

Dr. N. C. Newton said that it had been said that to be good at diagnosing an acute abdominal condition required the wisdom of Solomon. Referring to the radiological examination of patients without fluid levels, Dr. Newton said that a radiologist might not always be available when it was necessary to make a rapid diagnosis. It was not always appreciated that the tube that took the picture must be parallel with the floor. The point was that some of the patients were very ill, and the radiographer pulled the table to an angle of 75° and the tube at right angles to the table, and took a picture marked "erect"; no fluid levels at all were seen. The surgeon should himself instruct the radiographer to see that the "erect" picture was in fact taken with the patient in the erect posture if possible, and if not to see that the tube was parallel with the floor.

DR. K. H. WHITE referred to appendiceal abscess following rupture of the appendix, the appendix being removed later. He asked whether any large series of such cases had been investigated and analysed. Histological examination about six months later often revealed complete obliteration of the lumen by fibrous tissue; it was hard to see how a further rupture could occur. He thought that in many such cases spontaneous cure occurred.

Dr. Barling, in reply, said that if the patient was going overseas, he would prefer to see his appendix removed after such an occurrence. The pathologists should investigate the problem.

DR. K. C. T. RAWLE said that he had occasion to remove an acutely inflamed appendix after previous appendicectomy. The remaining proximal portion of one and a half inches was acutely inflamed and full of pus. Dr. Rawle thanked Dr. Barling for his excellent discussion of acute abdominal emergencies. He said that clinicians would improve their diagnosis of acute appendicitis if they did not consider the patient's temperature at all. One question he himself asked, if the patient was a child, was whether the child had a headache. If it was present, it strongly suggested some diagnosis other than acute appendicitis. Referring to the Ochsner-Sherren treatment of acute appendicitis, Dr. Rawle said that if it was used, then the conditions laid down for its use should be observed. In his opinion they very rarely occurred. Pregnancy was one of the conditions in which it must not be used and childhood also excluded its use. Also, the patients should be nursed at the threshold of the operating theatre under special conditions. Such treatment was rarely suitable for a general practitioner in the country. If the diagnosis was certain, early surgical treatment was necessary. In dealing with a resolving or drained abscess, a period of five or six weeks was too soon to do appendicectomy; after three or four months there would be much more freedom from adhesions.

Dr. Alexander, from the chair, said that the subject was full of pitfalls. They had all had experience of the black appendices with normal pulse and temperature; he himself had been caught by the fact that shortly before he made his examination an enema had been given to the patient, and that had produced beautiful fluid levels in the X-ray picture of the bowel. The problem was not easy and needed to be studied carefully. Dr. Barling's lecture would help all who came into contact with those patients.

Correspondence.

THE CONTROL OF TUBERCULOSIS IN AUSTRALIA.

SIR: In his letter of August 15 in your issue of September 10, Dr. N. Kovacs draws attention to the common occurrence of atypical mycobacteria in pigs, and suggests that wild birds might be the common source of infection for man and pigs.

Having for the last few years made rather extensive investigations of atypical mycobacteria, I would like to point out that dust seems to be the most likely carrier of infection, provided that atypical acid-fast organisms more or less resembling *Mycobacterium avium* are assumed to be identical with the pathogenic strains. Similar organisms have been found in 30 out of 332 tonsils, 14 out of 44 milk specimens, 29 of 44 dust specimens, 9 out of 86 glands from cattle, 21 out of 68 glands from pigs, and 15 out of 101 glands of sheep. Sparrows gave 6 isolations out of 50 examined, and toads (*Bufo marinus*) 1 out of 30 examined.

Whether these strains are identical with, or even remotely related to, the virulent strains which produce human disease is at present impossible to prove or disprove, as the biochemical and serological relationship in the group of mycobacteria is very close. Atypical mycobacteria show cross-reactions, not only with *M. tuberculosis*, *M. bovis* and *M. avium*, but even with organisms like *Nocardia* and *Aspergillus fumigatus*.

Yours, etc.,

E. SINGER.

Queensland Institute of Medical Research,
Herston, N.9, Brisbane.
September 14, 1960.

THE TREATMENT OF CARCINOMA-IN-SITU OF THE UTERINE CERVIX.

SIR: I wish to comment on the article by Professor Lance Townsend and N. A. Beischer on carcinoma-in-situ of the uterine cervix in the Journal of September 10. Their plan for both diagnosis and treatment is definite and practical and therefore of much value with so much confused and diverse literature being published on this subject. The value of cytology and colposcopy in the early detection of this condition has been proved beyond doubt. In King George V Hospital, Sydney, in the last twelve months, 22 cases of carcinoma-in-situ or carcinoma with minimal invasion, the so-called "microcarcinoma" of Mestwerdt, have been detected primarily by these means. This constitutes nearly 1% of all gynæcological out-patients and 0·4% of women without symptoms attending a special clinic. In addition, there have been 14 other cases from honoraries' consulting rooms detected in a similar manner. The vast majority, if not all, of these cases would not have been detected had these new methods not been used.

I cannot agree with Professor Townsend's recommendation for a four quadrant biopsy as the initial diagnostic procedure in the presence of a positive smear. I believe that such biopsies can miss the carcinoma, either due to the small size of the lesion or by the occasional eccentric position on the ectocervix, well away from the cervical os, and also when the carcinoma is only present in the cervical canal, as in six of our cases mentioned. The Schiller test is also mentioned as a diagnostic aid. In my experience this test has proved most disappointing as most cervices examined will have iodine negative areas. This test is no substitute for colposcopy, which is an important complementary aid to cytology. The routine I would suggest is as follows: When the smear is positive but colposcopy shows the ectocervix is benign, a cone biopsy is done. This is necessary as endocervical curettage is not a reliable method of diagnosis. When the smear is positive and a suspicious colposcopic area is seen on the ectocervix, a wedge biopsy is taken to include the whole of the atypical area and if adjacent to the os, the corresponding lower portion of the cervical canal. When the smear is negative but colposcopy is suspicious, a wedge biopsy is done or in the less atypical cases either a punch biopsy is taken or the patient returns for further tests at a later date.

The aim has always been to detect cancer at a stage when the cure can almost be guaranteed, so now that we are able to do this with cervical cancer, the treatment should be adequate. Total hysterectomy would not seem to be sufficient as shown by the recurrence in the vaginal vault on two occasions in Professor Townsend's series and several other reported cases. Professor Townsend varies the cuff of vagina according to the Schiller test staining but I believe that at least one inch of vagina should be removed in all cases. Often this cannot be satisfactorily or safely done with the ordinary techniques of total hysterectomy but only when the ureters are freed at the sides of the cervix and vagina and can be seen to their insertion into the bladder. The dissection does not have to be as clean as in the Wertheim operation. This also allows the removal of the inner part of the parametrium. This operation would seem to be as radical as is justified in these cases. Pelvic lymphadenectomy is not indicated nor is it necessary to remove the ovaries in younger women. Vaginal hysterectomy with repair is an effective substitute in women with some degree of utero-vaginal prolapse. The necessary vaginal cuff is then easily removed. The more conservative procedures on the cervix are, I believe, only occasionally indicated, as recurrences will certainly occur in a percentage of cases. Such operations should be reserved only for younger women, who desire more children. After such operations a regular follow-up with cytology and colposcopy is essential.

Yours, etc.,

MALCOLM COPPLESON.

231 Macquarie Street,
Sydney.
September 12, 1960.

THE DILUTION ANÆMIA OF PREGNANCY.

SIR: I would like to thank Dr. Cope for his comments in the Journal of September 10, 1960. I agree that plasma volume estimations are best expressed as absolute values; but as the values per kilogram body weight were so frequently consistent in the series I described, they were chosen for the table, and the absolute values were excluded for brevity. The same conclusion was reached from comparison of the absolute values. Tanner's observations[1] were more concerned with excluding a bias in standards than with a comparison such as this. No failure of increase in red-cell volume was observed. The red-cell volume increased in both groups more or less in proportion to the weight gain.

In many studies of this kind there has been no separation of anæmic from non-anæmic cases nor exclusion of iron deficiency, and because over-all mean values have shown a disparity between the plasma volumes and red-cell volumes, this disparity has been accepted as physiological. On the other hand, it has been shown by many workers in recent years that in women adequately treated with iron throughout pregnancy, such a disparity, as disclosed by a fall in the hæmoglobin level, does not usually occur. The placental shunt is probably one factor in causing a rise in plasma volume (I think there are others), and its closure may well be the main reason why the plasma volume falls close to term. However, it does not follow that an excessive rise in plasma volume with a failure of the bone-marrow output to keep pace is still a physiological state. Rather, it suggests that some abnormal stress in pregnancy has become manifest in the circulation in these cases.

Yours, etc.,

M. G. WHITESIDE.

The Royal Women's Hospital,
Melbourne.
September 14, 1960.

RISING COSTS AND MEDICAL FEES.

SIR: For ordinary people the cost of bare necessities of life, food and clothing are excessive and rising. The cost of homes and furniture are too high. Other essentials, by our standards, radio, washing machines, refrigerators, are too dear to be bought unless the purchaser resigns himself to the nervous strain of hire purchase.

Every adult and pressure group clamours for more, even the pensioner and members of parliament, and generally, or partially, gets more. There is an air of expectancy for action and fear of trouble ahead. There is also colossal individual and national waste. We are warned by experts that it must stop.

Can doctors help? By our university and ethical training we should lead, set an example, and give real help. Like everything else fees are too high and could be lowered.

[1] *J. appl. Physiol.*, 1949, 2: 1.

I would suggest a reduction of 15% for general practitioners and 25% for specialists, to the Council of the B.M.A. I do not think doctors would be worse off, but even so, it is a duty as a reputable group to heed a warning and help avert impending trouble.

Yours, etc.,

E. R. ROSEBY, M.B., Ch.M.

Boggabri,
New South Wales.
September 13, 1960.

THE ANXIETIES OF PREGNANCY.

SIR: In a recent article (MED. J. AUST., July 30, 1960) I stated that the cost of children "on the State", was nearly £1500 *per annum*, and that there were nearly 2000 such children. Mr. J. V. Nelson, Director of the Children's Welfare Department, has drawn my attention to the fact that this costing is much exaggerated. He is upset by my exaggeration and I apologise to him for this error and for having upset him.

In a recent edition of the *Melbourne Herald* (August 23, 1960) the Acting Chief Secretary of Victoria (Mr. Thompson) is reported to have said that the Children's Welfare Department expenditure was approximately £1·4 million.

However, these monetary considerations do not alter the truth of what Catherine Spence said a hundred years ago—"There is nothing so costly to the State as a ruined life." Unfortunately the foundations of this costly ruination are sometimes firmly laid before some children come under the care of Mr. Nelson's excellent department.

Yours, etc.,

D. F. LAWSON.

12 Collins Street,
Melbourne.
Undated.

MALCOLM WELD FLETCHER.

SIR: May I have space in your correspondence column to record my pride and gratitude to belong to a profession a member of which can attain the heights of human worth recorded in your issue of September 10 by the colleagues of Malcolm Fletcher of Launceston.

Here undoubtedly was a beloved physician—may we never forget that this title is, despite all kudos, the greatest of professional achievements.

Yours, etc.,

C. STANTON HICKS.

"Woodley",
Glen Osmond,
South Australia.
September 15, 1960.

OFFICIAL BIOGRAPHY OF SIR JAMES MACKENZIE.

SIR: Professor A. Mair, of the Department of Public Health and Social Medicine, Queen's College, Dundee, has been asked by the only surviving daughter of Mackenzie to write his life. Any doctors in Australia who have letters from Mackenzie or documents about him are asked to send these to Professor Mair, who will have copies made and send them back.

Yours, etc.,

MICHAEL KELLY.

410 Albert Street,
East Melbourne, C.2.
September 13, 1960.

THALASSÆMIA MAJOR.

SIR: I was interested to read an article in your Journal (J. G. Wilson, "Thalassæmia Major", MED. J. AUST., 1960, 2: 328). The author has rightly emphasized the importance of this disease in differential diagnosis of hæmolytic anæmia amongst European migrants of Mediterranean stock in Australia.

May I add that thalassæmia major is also prevalent among Asians? Thirty-two cases of Cooley's anæmia in Thailand were reported by Minnict *et alii* in 1954, three cases by Field and Tan in Malaya in 1955, and I have diagnosed two cases myself, a Chinese of one and a half years and a Malay of four years old.

In view of the resident Chinese population and ever-increasing influx of Asian students in Australia, Cooley's anæmia should be remembered in dealing with such patients.

Lastly, it is not merely of academic interest to diagnose a Cooley's anæmia; but it is of importance, so that iron therapy may be avoided early, as such patients are already saturated with iron but unable to utilize it.

Yours, etc.,

T. S. TI,
Medical Officer, Nutrition Division.

Institute for Medical Research,
Kuala Lumpur,
Federation of Malaya.
September 19, 1960.

GENERAL PHARMACEUTICAL BENEFITS.

SIR: In support of Dr. E. S. Stuckey's letter of August 25, 1960 (MED. J. AUST., September 17, 1960), it would seem to me that he has hit the nail on the head five times in succession. His fourth point, that even in a limited scheme of pharmaceutical benefits, doctors should retain their right to prescribe what they think is of best benefit to their patients, both in quantity and in terms of reasonable time, with the exception of potentially dangerous drugs such as cortisone, upholds the tradition of the Father of Medicine, Hippocrates, that it is not the doctor that matters. It is the patient.

Dr. Stuckey's fifth point, that doctors should unite upon the principles of fair pharmaceutical benefits, the more emphasizes that professional freedom is essential, in the interests of the patient.

Yours, etc.,

ARTHUR D'OMBRAIN.

British Medical Association House,
135 Macquarie Street,
Sydney.
September 20, 1960.

CROSS MATCHING OF BLOOD.

SIR: The rapid expansion of knowledge concerning blood groups and their antibodies makes the current circular letter from the Australian Red Cross Society (New South Wales Division) to transfusion officers a welcome contribution towards achieving safer cross matching of blood before transfusion. However, we would like to take this opportunity of making some comments, first on the recommended procedures, and secondly on blood transfusion generally.

First, the indirect Coombs test itself can produce unreliable information, particularly in the hands of inexperienced serologists. There are multiple factors operating in this reaction, and recently Stratton[1] has shown how (*a*) ratio of cells to serum, (*b*) length of incubation, (*c*) temperature, (*d*) hydrogen ion concentration, (*e*) ionic strength, (*f*) absence of complement in complement dependent antibodies and (*g*) prozone phenomena can influence the results.

In our hands, Coombs testing has been less sensitive than albumin in detecting antibodies. We also have experience of antibodies not detected by P.V.P., but demonstrated by Coombs testing and albumin. Recently an antibody was reported causing severe hæmolytic disease (Crowley[2]) in a new-born which did not react with Coombs reagent, but was demonstrable on the baby's cells and in the mother's serum by albumin methods.

Difficulties may arise in smaller laboratories in providing adequate positive and negative controls for Coombs testing. A false negative reaction (and this is the most likely result of faulty technique) may be sufficient to influence occasional cross matchers to ignore suspicious reactions obtained in concurrent albumin or P.V.P. cross matching.

The recommendation in regard to testing previously transfused and parous women by indirect Coombs reaction infers that in this group of people a special test is necessary because antibodies are more liable to be present; surely the use of such a test should be extended to cover those cases in which history is unavailable or unreliable, and hence awareness of antibodies is not so acute and therefore more likely to be overlooked.

[1] *Vox Sang.* (*Basel*), 1960, 5: 201 (May).

[2] *Amer. J. clin. Path.*, 1960, 33: 496.

A recommendation that Coombs testing be used under certain circumstances which are likely to produce antibodies may suggest to inexperienced serologists that the test is all that is necessary to cover all situations. As mentioned above, antibodies may be missed using Coombs test alone, and just as the P.V.P. test was formerly thought to be adequate, there is now a strong suspicion that a similar change of opinion may occur with regard to the Coombs test. For this reason, its use alone is insufficient and not in the best interests of the person being transfused.

There is no easy way to cross match blood — multiple methods, using saline, albumin, P.V.P., serum-albumin mixtures and Coombs type reactions are all necessary in the present state of knowledge.

Secondly, with regard to transfusion in general. There are two obligations incumbent upon the transfusionist: (*a*) an obligation to donors to ensure that donations of blood will be used only in necessary transfusions, and (*b*) an obligation to ensure that the patient receiving blood really needs it, and that it is given with every safeguard.

Transfusion is potentially dangerous—risks of infection, transfusion reactions and hæmosiderosis are well known. The incidence of these cannot be eliminated, try as we may, and patients will continue to be damaged by blood transfusion. Transfusions which are not indicated and therefore unnecessary must be eliminated. Obviously a 50% reduction will reduce those exposed to risk by 50%, and this elimination will counterbalance the increased amount of work involved in multiple cross-matching methods.

In Australia, it is impossible to obtain, other than from sporadic information in the Press, the mortality from blood transfusion. The morbidity can only be guessed at, but the cases published (Edwards and Whyte[3]) having received treatment by means of the artificial kidney give some indication of the extent of the problem. We draw attention to an editorial in *Blood*, December, 1958, by W. H. Crosby, on the "Misuse of Blood Transfusion", and quote his concluding paragraph: "Thoughtless prescription of blood transfusion is playing Russian roulette with bottles of blood instead of a revolver. While the odds are in favour that nothing will go wrong, the patient takes all the risk!"

Yours, etc.,

Royal Newcastle Hospital,
Newcastle, N.S.W.
September 20, 1960.

J. R. S. DOUGLAS,
W. F. HUNTER,
T. WILKINSON.

Notes and News.

Institute of Thoracic Diseases, Royal North Shore Hospital of Sydney.

An Institute of Thoracic Diseases has been established at the Royal North Shore Hospital of Sydney. The aim is to model the Institute on the Institute of Diseases of the Chest associated with the Brompton Hospital and the London Chest Hospital. The activities of the Institute will include post-graduate teaching and research in respiratory and cardiac diseases. As the Institute develops it is hoped to organize extended courses to which Asian students will be welcome. It is intended to cooperate closely with the Post-Graduate Committee in Medicine in the University of Sydney. The office of the Institute is c.o. the Thoracic Unit, Royal North Shore Hospital of Sydney, and the Honorary Secretary is Mr. H. J. Richards.

Assistance to Hospitals.

The Commonwealth Minister for Health, Dr. Cameron, stated recently that it was grossly misleading to claim that the Commonwealth had not increased its aid to hospitals since 1948. Commonwealth payments towards the maintenance of public and private hospitals had been more than trebled since that time. Indirect Commonwealth contributions had still further increased the rate of this assistance. To dismiss current Commonwealth aid as "8s. a day and no more" was so far from the truth that the charge could not be allowed to pass unchallenged.

Dr. Cameron said that what was known as "ordinary Commonwealth benefit" paid to public and private hospitals at the rate of 8s. per bed per day was £5,885,446 during the year ended June 30, 1949. This payment amounted to £9,446,905 during the 12 months ended June 30, 1960. That increase, of course, simply reflected the increase in population and the number of hospital beds in use. In 1951, however, the Commonwealth took upon itself the responsibility of sponsoring the now familiar hospital benefit system. It undertook to assist to meet the hospital bills of persons contributing to hospital benefit organizations. As a result of that arrangement the Commonwealth paid to insured persons last year £9,152,340 in addition to its basic contribution of 8s. per bed per day. That made the total Commonwealth contribution to hospitals during the year £18,599,245. In addition, the benefit funds themselves paid out £11,955,800. Thus Commonwealth support of the hospital contribution funds, *plus* Commonwealth payments, helped to create a pool of £30,555,045 available to the States in the past year to supplement public and private hospital revenues. New South Wales received about £14 million of that sum—about 46% of the total, despite the fact that its population was only about 37% of that of the Commonwealth. By comparison with other States, therefore, it was certainly not disadvantaged.

There were, the Minister said, various other avenues through which the States received financial assistance from the Commonwealth towards meeting their hospital costs, many of which did not even exist in 1948. Payments under the Tuberculosis arrangement had increased from £151,079 during the year ended June 30, 1949, to £6,143,772 during the year ended June 30, 1960. Payments towards the capital cost of mental institutions, introduced in 1956, amounted in the past year to £1,147,472. The Commonwealth had undertaken to find £1 for every £2 the States spent on mental institution capital costs, to a total of £10,000,000. Victoria alone had taken full advantage of that offer. New South Wales had drawn only £1,472,000 (39%) of the quota of £3,830,000 available to it. Funds were now made available to assist State-subsidized home nursing schemes, to relieve the pressure on hospital accommodation. The amount expended on that scheme during the year just ended was £53,616. An amount of £80,000 was spent last year on producing blood fractions at the Commonwealth Serum Laboratories, Melbourne. That service was a striking contribution towards shortening the time patients spent in hospital. Some £300,000 was spent on the production of immunizing materials, which were made available free of charge.

Dr. Cameron said that surely all the activity he had mentioned represented a positive contribution towards the general problem of preserving the nation's health and thereby meeting hospital costs. The Commonwealth was aware that the maintenance of hospitals, schools and other services imposed a heavy burden on the States. Appreciation of that fact had prompted the recent increase from £321,000,000 to £350,000,000 in payments to the States from Commonwealth Consolidated Revenue during 1960-1961. That involved a gain of £9,000,000 by New South Wales. No doubt at least part of that sum would be made available also to New South Wales hospitals.

The College of Pathologists of Australia.

At a meeting of the College of Pathologists of Australia held on August 27, 1960, in the hall of the Royal Society in Melbourne, the following were admitted to membership of the College:

Professor R. A. Willis (*honoris causa*); Professor D. L. Wilhelm; Dr. P. Brain; Dr. P. E. Campbell; Dr. R. J. Elvy; Dr. J. S. Menzies.

The following candidates were announced as having passed in the subjects listed: Dr. P. J. Barratt (hæmatology, morbid anatomy); Dr. W. Chia (morbid anatomy, microbiology); Dr. R. E. T. Duhig (morbid anatomy); Dr. L. A. Feain (hæmatology); Dr. R. L. Shaw (hæmatology, morbid anatomy); Dr. D. J. Schiavone (hæmatology, microbiology); Dr. B. M. Wadham (chemical pathology, morbid anatomy); Dr. M. H. L. Williams (hæmatology).

Quadruple Antigen.

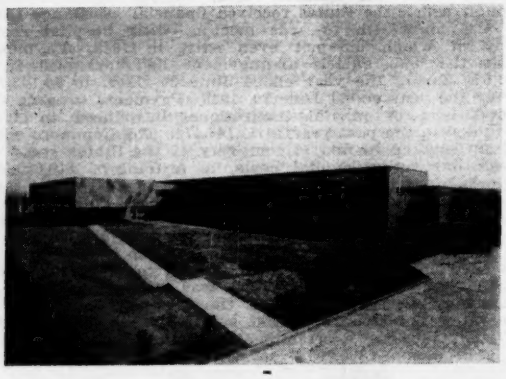
The Commonwealth Minister for Health, Dr. Cameron, has announced that it is probable that a new quadruple vaccine, which offers immunity simultaneously against diphtheria, whooping cough, tetanus and poliomyelitis, will be available for general use early next year. The most suitable seasonal conditions for its introduction are in late summer and early autumn. The quadruple vaccine is intended for the immunization of babies. The course of treatment recommended consists of five injections of the

[3] MED. J. AUST., 1959, 1: 417.

vaccine, spread over the first 15 months of the child's life. Field trials conducted by the Commonwealth Serum Laboratories, Melbourne, have shown the vaccine to be very satisfactory. It is a big undertaking to manufacture sufficient to permit the vaccine to be made available for general use, but no difficulty is anticipated in adhering to the present production schedule. The release of the vaccine will be made as soon as production is adequate.

New Factory for Warner Lambert Pty. Ltd.

On Friday, September 9, 1960, the Prime Minister of Australia, the Right Honorable R. G. Menzies, officially opened the new £500,000 factory of Warner Lambert Pty. Ltd. at Villawood, N.S.W. This is an extensive plant, covering 93,000 square feet in five acres of gardens with a further 15 acres on the site for further expansion. It has a potential of four times the output capacity of the premises in Riley Street, Surry Hills, from which the company has been operating in Australia since 1930.



A notable feature of the new building is a mosaic of Italian coloured glass which forms the whole of the eastern façade of the administrative block. It incorporates aboriginal art forms from many parts of Australia.

Warner Lambert Pty. Ltd. has three subsidiary companies: William R. Warner and Co. Pty. Ltd. (pharmaceuticals), Richard Hudnut Pty. Ltd. (cosmetics and toiletries), Chamberlain's Pty. Ltd. (lay pharmaceuticals).

Nuffield Foundation Grant.

The Chairman of the Nuffield Foundation Australian Advisory Committee, Mr. Colin Syme, has announced that a grant of £10,000 had been made to Professor D. Rowley of the Department of Microbiology, University of Adelaide, over a period of three years, for his researches in the field of natural immunity to infectious diseases. In the past few years it has been established that the ability of animals to resist induced bacterial infections may, under certain circumstances, be proportional to the efficiency with which the animals can filter bacteria out of the blood stream. This filtering action mainly in the liver, spleen and lungs is performed by special leucocytes. It is proposed to examine the filtration efficiency of a range of animal species chosen to cover a large span of the animal kingdom. This will be done by following the elimination from living animals, of bacteria which have been labelled with various radioactive isotopes. It seems possible that there may be quantitative and qualitative differences in the filtration efficiencies of different species. This may help to account for the extraordinary variations in susceptibility to infection which occur between one animal species and another.

Australian Atomic Energy Commission Research Establishment.

The Australian Atomic Energy Commission Research Establishment, Lucas Heights, New South Wales, proposes to hold three open days for members of professional associations and societies during the second half of November, 1960. Detailed arrangements and dates will be announced later.

The World Medical Association.

PARACELSUS MEDAL.

THREE doctors were awarded the Paracelsus Medal at a joint opening session of the fourteenth General Assembly of The World Medical Association and the sixty-third *Deutsche Ärztetag* convening in the Berlin Congress Hall, West Berlin, Germany, on September 16, 1960.

Dr. Curt Emmerich of Baden-Baden, Germany, received the award in recognition of his untiring efforts to portray for the people of the world the true character of the doctors who make up the medical profession. Dr. Emmerich, whose writings are published under the pseudonym of Peter Bamm, is being cited for having established a memorial to the reputation of the medical profession in his book "The Invisible Flag", which has been translated for publication in eight languages. In this book Dr. Emmerich vividly demonstrates that under the invisible flag of humanity in accordance with the Hippocratic oath, the medical profession, in modern civilization as in ancient times, is at work all over the world, at all times protecting life and giving aid to suffering mankind.

Dr. Walter Stoeckel of Berlin, Germany, received the award in recognition of his outstanding contributions to medical science. Dr. Stoeckel is Professor of Obstetrics and Gynecology, Professor of Urology, and Emeritus Director of the University Women's Clinic; he is a wise counsellor, a respected teacher and the esteemed educator of generations of medical students and doctors. Even during the frustrating trials resulting from the destruction of his clinic during the distress of war and its aftermath which overtook him in his advancing years, Dr. Stoeckel faithfully devoted his life to the principles of duty of the medical profession, and made the welfare of his patients his first and primary consideration.

Dr. Louis H. Bauer, of New York City, Secretary-General of The World Medical Association, received the award in recognition of the service he has rendered to the medical profession of the world. The citation notes Dr. Bauer's outstanding service in promoting freedom and upholding the honour of the medical profession in scientific, social and economic aspects. However, the Paracelsus Medal is being awarded to him in recognition of the valuable contribution that he has made in the administration of the global organization of the doctors of the world, and of his friendship toward the German physicians.

The Paracelsus Medal, named for the sixteenth century physician and chemist who promoted the use of specific remedies and was the author of many medical works, was established in 1952 as the highest award bestowed by the *Deutsche Ärztetag* (German Physicians' Day). It is usually awarded to three distinguished doctors annually at an impressive ceremony. Dr. h. c. Heinrich Lübke, President of the Federal Republic of Germany, and numerous other Federal, State and city officials witnessed this presentation of awards.

Research.

RESEARCH PROJECTS IN MEDICINE AND ALLIED SCIENCES IN AUSTRALIA.

THE following is the current research programme of the Department of Microbiology, University of Adelaide. This information is supplementary to the list published in the issue of June 25, 1960, page 1034.

Subject: Natural immunity of different animal species investigated at various levels.

1. Tissue culture studies with macrophages and other reticulo-endothelial cells: Professor D. Rowley, Dr. C. R. Jenkin, Dr. E. R. J. Pavillard.

2. Intracelluiar enzymes of macrophages: Professor D. Rowley, Dr. Reeves.

3. Purification of those serum proteins having opsonic activity: Professor D. Rowley, Dr. C. R. Jenkin.

4. Lysis of Gram-negative bacteria by fresh serum of various animals: Mr. G. E. Schwab.

5. Chemical and immunological structure of cell walls of Gram-negative bacteria: Dr. N. Atkinson, Mr. Collins, Miss Evans.

6. Isolation and purification of various colicins: Dr. Reeves, Mr. A. H. Rogers, Miss Auzins.

7. Purification and characterization of cholera mucinase: Miss A. J. Thompson.

These researches are supported by the U.S. Public Health Service, The Nuffield Foundation, The Wellcome Trust, and the National Health and Medical Research Council, as well as by the Medical Research Committee of the University of Adelaide.

University Intelligence.

THE UNIVERSITY OF ADELAIDE.

The Shorney Prize.

THE Shorney Prize, established for the purpose of perpetuating the memory of the late Herbert Frank Shorney, M.D., F.R.C.S., Lecturer in Ophthalmology in the University of Adelaide from 1926 to 1933, will be offered for the twelfth time in 1961, and will be for work in ophthalmology. The relevant clauses of the Statute are as follows:

3. A post-graduate prize, to be called The Shorney Prize, of the value of £100, shall be awarded to the candidate who in the opinion of the examiners has made the most substantial contribution to knowledge in the subjects of ophthalmology or diseases of the ear, nose and throat.
4. The recipient must be a graduate of an Australian University.
5. The material submitted for the prize may be either a thesis or published work in medical or scientific literature, provided that it shall not have been submitted for examination for a degree, or published, more than five years prior to the closing date of entries for the prize.
6. Each candidate must declare that the work described is his own.
7. The prize shall be offered for competition from time to time as the accumulations of the fund permit.
8. The prize shall be offered at least 12 months before the last day for the receipt of applications.
9. The prize shall not be awarded on any occasion unless in the opinion of the examiners the material submitted is of sufficient merit.

Applications, accompanied by three copies of the evidence which the candidates wish to submit in support, must reach the Registrar, University of Adelaide, not later than September 1, 1961.

Australian Medical Board Proceedings.

NEW SOUTH WALES.

THE following additions and amendments have been made to the Register of Medical Practitioners for New South Wales, in accordance with the provisions of the *Medical Practitioners Act*, 1938-1958.

Registered medical practitioners who have complied with the requirements of Section 17 (3) and are registered under Section 17 (1) (a) of the Act: Burke, Brian Vincent, M.B., B.S., 1955 (Univ. Queensland); Ellwood, Robert William, M.B., B.S., 1953 (Univ. Queensland); Cecil, Kevin Howard, M.B., B.S., 1955 (Univ. Melbourne).

Registered medical practitioners who have complied with the requirements of Section 17 (3) and are registered under Section 17 (1) (b) of the Act: Henderson-Smart, Arthur MacCubbin, M.B., B.Ch., 1947 (Univ. Witwatersrand); Innes, John, M.B., B.Chir., 1952 (Univ. Cambridge); Ovedoff, David Leopold, M.B., B.Ch., 1940 (Univ. Witwatersrand), M.R.C.P. (London), 1949; Palmer, William Alexander Derek, M.B., B.Ch., 1958 (Queen's University, Belfast).

The following has been issued with a licence according to Section 21A of the Act: Dax, Albert Andrew, renewal of Regional Registration, Goodooga, for one year from September 3, 1960.

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA FOR THE WEEK ENDED AUGUST 27, 1960.[1]

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory.	Australian Capital Territory.	Australia.
Acute Rheumatism	3(1)	..	6(3)	..	2(1)	..	..	..	11
Amœbiasis	..	..	..	..	..	..	..	..	..
Ancylostomiasis	..	..	2(1)	..	..	..	7	..	9
Anthrax	..	..	..	..	..	..	..	..	..
Bilharziasis	..	..	..	..	..	..	..	..	..
Brucellosis	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..
Chorea (St. Vitus)	..	..	..	..	..	..	..	..	..
Dengue	..	..	..	..	..	..	..	..	..
Diarrhœa (Infantile)	6(6)	19(17)	12(3)	1	2(2)	5	..	45	
Diphtheria	..	..	..	..	1(1)	..	..	..	1
Dysentery (Bacillary)	..	1(1)	..	1(1)	..	..	2	4	
Encephalitis	..	..	..	..	..	..	..	..	..
Filariasis	..	..	..	..	..	..	..	..	..
Homologous Serum Jaundice	..	..	..	..	..	..	..	..	..
Hydatid	..	..	..	..	..	..	..	..	..
Infective Hepatitis	116(52)	55(29)	13(1)	23(9)	7(2)	..	..	214	
Lead Poisoning	..	..	3	..	..	..	..	3	
Leprosy	..	..	..	..	..	..	..	..	..
Leptospirosis	..	..	4	..	..	..	..	4	
Malaria	..	..	..	..	..	..	1	..	1
Meningococcal Infection	1(1)	1	..	1(1)	..	..	..	..	3
Ophthalmia	..	..	..	..	..	..	..	..	..
Ornithosis	..	..	..	..	..	..	..	..	..
Paratyphoid	..	..	..	..	..	..	..	..	..
Plague	..	..	..	..	..	..	..	..	..
Poliomyelitis	..	..	..	..	1(1)	..	..	..	1
Puerperal Fever	2(1)	..	1	..	..	..	..	..	3
Rubella	..	11(6)	1(1)	3(2)	1(1)	..	..	..	16
Salmonella Infection	..	..	..	2(1)	1(1)	..	..	..	3
Scarlet Fever	14(6)	17(10)	3(3)	20	..	1	..	..	55
Smallpox	..	..	..	..	..	..	..	..	..
Tetanus	..	..	2	..	1(1)	..	..	..	3
Trachoma	..	..	..	..	..	..	2	..	2
Trichinosis	..	..	..	..	..	..	..	..	..
Tuberculosis	31(16)	12(7)	22(5)	15(15)	11(8)	2(2)	..	..	93
Typhoid Fever	..	..	..	..	..	..	..	..	..
Typhus (Flea-, Mite- and Tick-borne)	..	..	..	..	..	..	..	..	..
Typhus (Louse-borne)	..	..	..	..	..	..	..	..	..
Yellow Fever	..	..	..	..	..	..	..	..	..

[1] Figures in parentheses are those for the metropolitan area.

The following have been issued with a licence according to Section 21c (4) of the Act: Kaufman, Mieczyslaw, from July 4, 1960, to March 23, 1961; Lezynska, Alicia, from July 14, 1960, to March 23, 1961; Kowalski, Ignacy, for a period of one year from July 5, 1960; Harasymczuk, Isjaslaw, Leonid Plato, for a period of one year from August 1, 1960; Malinowski, Henryk-Leonard, for a period of one year from July 25, 1960; Babajews, Alibaba, for a period of one year from July 5, 1960; Hornitzky, Jaroslav, for a period of one year from July 25, 1960; Kroll, Endel, for a period of one year from September 1, 1960.

The following have been issued with a licence under Section 21c (3) of the Act: Sereanu, Andrei, for a period of one year from July 18, 1960; Zandy, Zygmunt, from July 4, 1960, to December 4, 1960.

The following have been issued with interim licences under Section 21c (3) of the Act: Papp, Peter, Balmain and District Hospital, Balmain; Schual, Freddy Ephram, Division of Psychiatric Services; Majewski, Stanislaus, Cessnock District Hospital, Cessnock.

Post-Graduate Work.

THE POST-GRADUATE COMMITTEE IN MEDICINE IN THE UNIVERSITY OF SYDNEY.

Post-Graduate Conference at Parramatta.

THE Post-Graduate Committee in Medicine in the University of Sydney announces that, in conjunction with the Central Western Medical Association, a post-graduate conference will be held in the Nurses' Lecture Room, Parramatta District Hospital, on Saturday and Sunday, October 29 and 30, 1960. The programme is as follows:

Saturday, October 29: 2 p.m., registration; 2.30 p.m., "Induction of Labour and Associated Problems", Associate Professor R. P. Shearman; 4 p.m., question session.

Sunday, October 30: 10 a.m., "Bronchial Carcinoma and Routine Chest X-Rays", Dr. Maurice Joseph; 11.20 a.m., "Management of Hypertension", Dr. G. E. Bauer; 2 p.m., question session.

The fee for attendance is £3 3s., and those wishing to attend are requested to notify Dr. C. A. McDermott, 8 Carlton Street, Granville, as soon as possible. Telephone: YU 1570.

ROYAL PRINCE ALFRED HOSPITAL: EAR, NOSE AND THROAT DEPARTMENT.

Seminar Programme, 1960.

THE staff of the ear, nose and throat department of the Royal Prince Alfred Hospital will conduct a seminar on the second Saturday of every month at 8 a.m. in the Scot Skirving Lecture Theatre. The main speaker will not exceed forty minutes, and there will be a discussion at the conclusion of his remarks. All medical practitioners and clinical students are invited to attend.

At the next seminar, to be held on October 8, 1960, Dr. J. H. Seymour will speak on "Neurophysiology and Theories of Hearing, Historical and Modern".

Nominations and Elections.

THE undermentioned has applied for election as a member of the New South Wales Branch of the British Medical Association:

O'Sullivan, Peter Robert, M.B., B.S., 1958 (Univ. Sydney); 65 Arden Street, Clovelly.

Deaths.

THE following deaths have been announced:

YEATES.—James Macrae Yeates, on September 15, 1960, at Vaucluse.

ARNDT.—George Herbert Arndt, on September 21, 1960, at Perth.

MICKLER.—Morris Mickler, on September 23, 1960, at Forster, N.S.W.

Diary for the Month.

OCTOBER 4.—New South Wales Branch, B.M.A.: Council Quarterly.
OCTOBER 5.—Western Australian Branch, B.M.A.: Branch Council Meeting.
OCTOBER 5.—Victorian Branch, B.M.A.: Branch Meeting.
OCTOBER 6.—South Australian Branch, B.M.A.: Council Meeting.
OCTOBER 7.—Queensland Branch, B.M.A.: General Meeting at Toowoomba in conjunction with Toowoomba and District Local Medical Association.
OCTOBER 7.—Tasmanian Branch, B.M.A.: Branch Council.
OCTOBER 11.—New South Wales Branch, B.M.A.: Executive and Finance Committee; Organization and Science Committee.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Medical Secretary, 135 Macquarie Street, Sydney): All contract practice appointments in New South Wales.

South Australian Branch (Honorary Secretary, 80 Brougham Place, North Adelaide): All contract practice appointments in South Australia.

Editorial Notices.

ALL articles submitted for publication in this Journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations, other than those normally used by the Journal, and not to underline either words or phrases.

Authors of papers are asked to state for inclusion in the title their principal qualifications as well as their relevant appointment and/or the unit, hospital or department from which the paper comes.

References to articles and books should be carefully checked. In a reference to an article in a journal the following information should be given: surname of author, initials of author, year, full title of article, name of journal, volume, number of first page of article. In a reference to a book the following information should be given: surname of author, initials of author, year of publication, full title of book, publisher, place of publication, page number (where relevant). The abbreviations used for the titles of journals are those of the list known as "World Medical Periodicals" (published by the World Medical Association). If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors submitting illustrations are asked, if possible, to provide the originals (not photographic copies) of line drawings, graphs and diagrams, and prints from the original negatives of photomicrographs. Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary is stated.

All communications should be addressed to the Editor, THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales. (Telephones: MW 2651-2-3.)

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